

**Elkhart Siding and Track Reconstruction Project  
Environmental Assessment  
Logan County, Illinois**

Submitted Pursuant to 64 FR 28545

by the

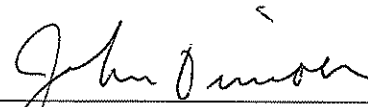
US DEPARTMENT OF TRANSPORTATION  
FEDERAL RAILROAD ADMINISTRATION

and

ILLINOIS DEPARTMENT OF TRANSPORTATION

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For Illinois DOT

**ABSTRACT:** This Environmental Assessment (EA) evaluates the construction of a siding track along the mainline service line of the Union Pacific Railroad (UPRR) from north of Broadwell (Milepost 161.90) to south of Elkhart (Milepost 170.45), in Logan County, Illinois. The Preferred Alternative includes: 1.) the reconstruction and extension of the existing siding track; 2.) installation of new signal systems and switch gears; and 3.) improvements to the at-grade rail/roadway crossings.

The Preferred Alternative would be of immediate benefit to the rail passenger and freight services using this line today, as well as future use for High-Speed Rail (HSR) trains. The Preferred Alternative would improve fluidity of train movement, decrease delays in passenger trains, and reduce congestion in the area between Broadwell to Elkhart. The siding track would also improve the efficiency of the railroad by allowing for train meets and sorting of cars for freight trains as well as an area for storing trains during maintenance incidents. No significant impacts to natural, social, or human environments would occur. Approximately 8.54 acres of wetlands would be impacted by the Preferred Alternative, but these wetlands are low quality and impacts would be minimized and mitigated. Temporary impacts to water quality, noise, transportation, and air quality could occur from construction-related activities.

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ENVIRONMENTAL ASSESSMENT

ELKHART SIDING AND TRACK CONSTRUCTION

**Union Pacific Railroad Track Improvement Project  
1200N Rd. to 450 Ave., IL (MP 161.90 to MP 170.45)**

LOGAN COUNTY, ILLINOIS

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Prepared Pursuant to 42 USC § 4332, 49 USC § 303, and 64 FR 28545  
by the  
Illinois Department of Transportation

September 2013

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## ABBREVIATIONS AND ACRONYMS

ASTM	American Society for Testing and Materials
C	Coefficient of Conservation
CEQ	Council on Environmental Quality
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CWA	Clean Water Act
dBA	A-Weighted Decibels
DBH	Diameter at Breast Height
DEIS	Draft Environmental Impact Statement
EA	Environmental Assessment
EcoCAT	Ecological Compliance Assessment Tool
EDR	Environmental Data Resources
EO	Executive Order
ESA	Endangered Species Act
FEIS	Final Environmental Impact Statement
FEMA	Federal Environmental Management Agency
FHWA	U.S. Department of Transportation, Federal Highway Administration
FQI	Floristic Quality Index
FRA	U.S. Department of Transportation, Federal Railroad Administration
HREC	Historical Recognized Environmental Condition
HSR	High-Speed Rail
HUC	Hydrologic Unit Code
IDNR	Illinois Department of Natural Resources
IDOT	Illinois Department of Transportation
IEPA	Illinois Environmental Protection Agency
INAI	Illinois Natural Areas Inventory
ISGS	Illinois State Geological Survey
ISTEA	Intermodal Surface Transportation Efficiency Act
IWPA	Interagency Wetland Policy Act
MP	Milepost (Mile Post)
MPH	Miles per Hour
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NO <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Nitrogen Oxides
NPDES	National Pollution Discharge Elimination System
NPL	National Priority Listing
NR	National Register
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory

PM	Particulate Matter
PNS	Project Notification System
ppm	Parts Per Million
REC	Recognized Environmental Condition
ROD	Record of Decision
ROW	Right-of-Way
SFR	Single-Family Residences
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO <sub>2</sub>	Sulfur Dioxide
UP	Union Pacific
UPRR	Union Pacific Railroad
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDA	U.S. Department of Agriculture
USDOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VOC	Volatile Organic Compounds
WOUS	Waters of the United States

## 1.0 Purpose and Need for Action

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### 1.1 Introduction

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The Illinois Department of Transportation (IDOT), in coordination with the Federal Railroad Administration (FRA), has proposed to construct a siding track along the mainline service line of the Union Pacific Railroad (UPRR) from 1200N Road south to 450 Avenue in Logan County, Illinois. The “Project” spans 8.55 miles from Milepost (MP) 161.90 at 1200N Road in the unincorporated community of Fogarty south to Milepost 170.45 at 450 Avenue in the unincorporated community of Mount Fulcher, just north of the Logan/Sangamon County border. The Project entails the construction of an additional siding track that runs parallel to the mainline track, which would provide for uninterrupted use of the mainline track for both passenger and freight operations. It provides passing opportunities for trains moving in the opposite direction as well as slower trains moving in the same direction. Additionally, reconstruction of the existing mainline track and improvements to signaling and at-grade rail-roadway crossings are planned. No stationhouses are located in the Project limits and no new stationhouses are planned to be constructed within the Project limits. The Project is a section of the Chicago to St. Louis High-Speed Rail (HSR) Corridor Project (“Original Project”) approved by FRA under the Final Environmental Impact Statement (FEIS) dated January 2003 and Record of Decision (ROD) dated January 8, 2004).

As proponents of an action supported by federal funds, IDOT and FRA must comply with the National Environmental Policy Act (NEPA). NEPA requires federal agencies to consider the impacts of their actions on the natural, social, economic, and cultural environment and to disclose considerations in a public document. The NEPA process is intended to help public officials make decisions based on an understanding of the environmental consequences and to take actions that protect, restore, and enhance the environment (40 CFR § 1500.1).

The purpose of this Environmental Assessment (EA) is to provide FRA and the public with a full accounting of the environmental impacts of the alternatives for the Project. The EA serves as the primary document to facilitate review of the proposed action by federal, state, and local agencies, and the public.

The 2003 FEIS included a proposal to construct 22 miles of freight siding as part of the Original Project. However, the exact locations of the sidings were not determined in the 2003 FEIS or the 2004 ROD. As such, the construction and location of a siding specifically in Elkhart was not considered in the 2003 FEIS or the 2004 ROD for the Original Project, and it must be evaluated to meet the requirements of NEPA. This EA serves as a reevaluation of the environmental information and findings of the Original Project to address impacts related to the Project.

### 1.2 Project History

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In January 2003, IDOT completed a FEIS for the Chicago to St. Louis corridor (“Original Project”). The Preferred Alternative from the FEIS included the provision of high-speed rail



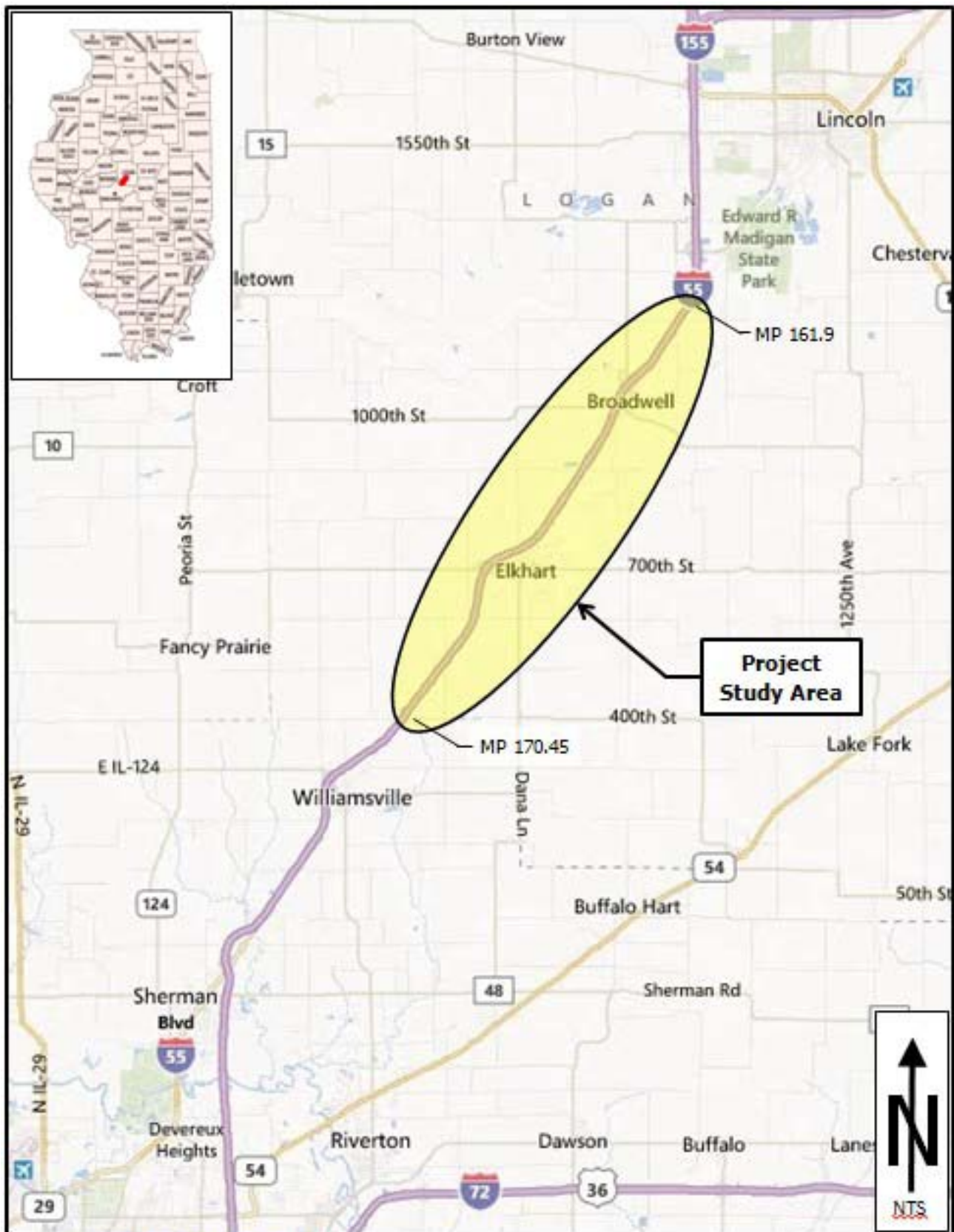
service, operating at 110 mph, along the existing Chicago to St. Louis Amtrak route south of Dwight, Illinois. No action was proposed between Chicago and Dwight. The proposed service consisted of three round trips per day. A Record of Decision (ROD) was signed in January 2004. Since the ROD, IDOT has made major progress on the Chicago to St. Louis Corridor in cooperation with the UPRR, which owns the right-of-way (ROW) south of Joliet and operates rail freight services in the corridor. Extensive rehabilitation and upgrading of the Chicago to St. Louis corridor track and signal systems have been undertaken, and four-quadrant gates have been installed at many at-grade crossings in the corridor. As previously mentioned in Section 1.1, the 2003 FEIS did not include exact locations for sidings. Therefore, as the location for this Project has been determined, a separate reevaluation document was necessary to assess potential impacts of the Project. This EA serves as that reevaluation document.

### 1.3 Study Area

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The study area covers an 8.55 mile corridor in Logan County along the UPRR mainline located between 1200N Road in Fogarty, an unincorporated community in Broadwell Township at the north terminus, and 450 Avenue in Mount Fulcher, an unincorporated community in Hurlbut Township, at the south terminus (see *Figure 1*). The City of Lincoln, the county seat of Logan County, is located approximately four miles north of the northern terminus of the corridor with the southern terminus of the corridor ending approximately one-half mile from the Logan/Sangamon County border. The Illinois state capital, Springfield, is located approximately 15 miles south of the study area corridor in Sangamon County. The Villages of Broadwell and Elkhart, as well as the unincorporated rural communities of Fogarty and Mount Fulcher, are located within the Project study area. The development of river, rail, and road transportation systems in this part of the state were keys to early settlement and served as a means of traveling to new lands further to the west. The Chicago & Mississippi Railroad was this area's first railroad and it served as a direct link between Chicago and St. Louis. The platting and incorporation of Elkhart (1855 and 1861), and Broadwell (1856) are directly connected to the arrival of the rail line. The underlying structure of the original transportation systems and associated urban development remains in place and has provided an enduring framework that later systems have incorporated and built upon and that remains important to the present.

Figure 1 – Project Study Area



Source: [www.bing.com/maps](http://www.bing.com/maps), 2013

## 1.4 Project Purpose and Need

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### *Original Project Purpose and Need*

Under NEPA, purpose and need are closely linked. Need is the definition of a problem, while the purpose is an intention to address the problem. The purpose explains why the sponsoring agency is proposing an action that may have environmental impacts. Further, the purpose provides the basis for selecting reasonable and practicable alternatives for consideration, comparing the alternatives, and selecting the preferred alternative (40 CFR § 1502.13).

For over a decade, IDOT has pursued improvements to passenger rail service between Chicago to St. Louis. The Chicago to St. Louis corridor is part of the Midwest Regional Rail System plan to develop and implement a 21st Century regional passenger rail system. The need for the Elkhart Siding and Track Construction Project is drawn from the need for the Original Project. According to the ridership estimates prepared in the 2011, Chicago to St. Louis and Revenue Forecast Report, the mode split for annual person trips in the corridor is 97.5 percent for automobile, 1.1 percent for air, 1.3 percent for rail (Amtrak), and 0.2 percent for bus. For there to be a more balanced transportation system in the corridor, trips must be diverted from the predominant modes of automobile and air. To achieve this, either a new transportation mode must be introduced or improvements to an existing, less frequently used transportation mode must be made. The conditions that will attract travelers from automobile and air travel to a new or improved mode of transportation are reduced travel time, service reliability, and safety. In addition to diverting travelers, the new or improved mode, as part of the entire transportation network, must result in improvements to the environment relative to air pollution and energy consumption. These improvements to the human environment will be realized through the use of modern, state-of-the-art equipment and efficiency. This Project focuses on improving rail transportation by introducing HSR service to replace the existing passenger rail service. Three important needs are reduced travel time/improved service reliability, safety, and improving the human environment.

Reducing travel time and improving service reliability are of paramount importance to increasing the viability of an improved mode of transportation. The HSR service would reduce travel time between Chicago and St. Louis, resulting in travel times that are shorter than can be achieved by automobile or bus. Additionally, downtown-to-downtown travel times by rail would be comparable to air service. Reliability, relative to HSR, is a product of frequency of service, on-time performance, and accessibility. The HSR proposal advanced would include substantial improvements in terms of frequency of service and on-time performance over the existing Amtrak service and would also be more, or as accessible, as existing and future proposed air service. The HSR service would also not be subject to highway congestion near the Chicago and St. Louis downtown areas or airports.

To divert travelers from automobile and air modes, potential HSR passengers must also believe use of the service is safe, as well as faster and more reliable. Safety pertains to passengers getting to and using the Chicago to St. Louis High-Speed Rail Project parking facilities at the HSR stations, walking through the stations to board the service, and traveling on the HSR

service. Safety enhancements included as part of the HSR proposal advanced would result in improvements to overall rail passenger safety when compared to existing rail service and the other modes of travel.

Provision of a transportation network with a more balanced use of the different modes would result in benefits to the environment. The HSR proposal would include modern, state-of-the-art rail equipment that would result in an overall reduction in passenger transportation-related emissions in the corridor when air quality is considered. Emissions from existing rail service, with the exception of nitrogen oxides, are less than either auto or air travel when compared on a passenger-mile basis. As a result, diversions of travel from these modes to HSR service would result in reduced volatile organic compounds and carbon monoxide emission levels in the corridor. Additionally, implementation of the HSR proposal advanced would result in an overall reduction in energy consumed by the alternative modes of travel in the corridor. Existing rail passenger service in the corridor is currently more efficient than air and automobile travel, in terms of energy consumption per passenger-mile, and the proposed HSR service would improve upon this efficiency.

#### Elkhart Siding and Track Construction Project Purpose and Need

The Elkhart Siding and Track Construction Project is an important component of the Original Project. The purpose of the proposed Project is to make improvements which would reduce passenger train delays that occur because of frequent trains combined with a lack of passing opportunity. A new siding, gate reinforcements, and signal system upgrades are required to accommodate the increase in train speed. Provision of a section of extended second main track (siding) in the vicinity of Elkhart addresses operational needs allowing for dual track use between freights and both corridor and long-distance trains to occur without impeding the passenger trains' progress. Identification of this track arrangement to be located in the Elkhart area was determined by UPRR's capacity analysis of the corridor's operation which resulted in optimized locations for sidings/extended second main track sections.

## 1.5 Applicable Regulations

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The following statutes and orders apply to the proposed action and were considered during the preparation of the EA:

- Endangered Species Act, 50 CFR Part 17
- Magnuson-Stevens Fishery Conservation and Management Act, 50 CFR Part 600
- Public Law 91-190, National Environmental Policy Act of 1969, 42 USC § 4321 et seq., signed January 1, 1970
- Public Law 95-217, Clean Water Act of 1977, 33 USC § 1251-1376
- Sections 9 and 10 of the Rivers and Harbors Act of 1899, 33 USC § 401
- Section 106 of the National Historic Preservation Act of 1966, as amended, 16 USC § 470
- Section 4(f) of the U.S. Department of Transportation Act of 1966, 49 USC § 303
- Section 404 of the Federal Water Pollution Control Act (CWA), 33 USC § 1344
- Section 6(f) of the Land and Water Conservation Act of 1965, 16 USC § 460

- Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, 42 USC chapter 61, 49 CFR part 24
- Executive Order 11988, Floodplain Management, 42 FR 26951, signed May 24, 1977
- Executive Order 11990, Protection of Wetlands, 42 FR 26961, signed May 24, 1977
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 59 FR 7629, signed February 11, 1994
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, 65 FR 50121, signed August 11, 2000
- Federal Railroad Administration, Procedures for Considering Environmental Impacts, 64 FR 28545 (May 26, 1999)
- Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act, 40 CFR Parts 1500-1508, November 29, 1978
- Federal Register, Use of Locomotive Horns at Highway-Rail Grade Crossings; Final Rule, 49 CFR Parts 222 and 229, April 27, 2005
- Illinois Environmental Protection Act of 1970 (415 ILCS 5)
- Illinois Interagency Wetland Policy Act of 1989 (20 ILCS 830)
- “Implementation Procedures for the Interagency Wetland Policy Act of 1989” (17 IAC 1090)
- Illinois Department of Transportation Wetlands Action Plan
- Illinois Department of Natural Resources Water Resources, Construction in Floodways of Rivers, Lakes and Streams (17 IAC Ch. I, Part 3700).
- Compliance with 70 ILCS 405 Soil and Water Conservation Districts Act.

## 2.0 Alternatives

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### 2.1 Introduction

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The alternatives evaluated in this EA include the (1) No-Build Alternative; and (2) the Build Alternative. The Build Alternative provides three main components: (1) Provision for a parallel siding track to the UPRR mainline track; (2) Reconstruction and extension of the existing mainline track, which includes upgraded signalization; and (3) Improvements to at-grade rail/roadway crossings. The Project study area covers 8.55 miles through the incorporated villages of Elkhart and Broadwell (2010 combined population of approximately 550) and the unincorporated communities of Fogarty and Mount Fulcher. Fogarty is located at the northern terminus of the Project study area at 1200N Road, while 450 Avenue in Mount Fulcher serves as the southern terminus. Elkhart and Broadwell are approximately 3.75 miles apart (center-of-town to center-of-town). The land between these municipal districts is “rural” land consisting of agricultural land, pastureland, grasslands, and open fields. The Project study area is located in the southwestern region of Logan County close to the Sangamon County border. There are no train stations or grade separated bridge crossings in the Project study area. The planned improvements require approximately 29.15 acres of additional ROW and construction easements to accommodate construction of new siding track, reconstruction of the existing UPRR mainline track, and reconfiguration and realignment of at-grade roadway crossings.

Impacts to at-grade road crossings that fall under IDOT’s jurisdiction are outside the limits of this EA, and are being assessed in a separate Tier 3 Categorical Exclusion (CE) Report. However, the Elkhart Siding EA does include some road crossing improvements that fall within the UPRR’s jurisdiction, as discussed in more detail in Section 2.2.2.

### 2.2 Evaluated Alternatives

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#### 2.2.1 No-Build Alternative

Under the No-Build Alternative, the proposed Project would not be implemented. The existing single mainline track and the existing siding track, between just north of Broadwell and just south of Elkhart, would remain unchanged and would receive routine maintenance with no additional track construction/replacement, or siding construction. Existing culverts, roadway crossings, crossing gates, pedestrian crossings, and signal equipment would remain unimproved.

The No-Build Alternative would not meet the purpose and need of the Original Project. It would not enhance capacity and increase the fluidity of operations on the UPRR line in the section between just north of Broadwell and just south of Elkhart. The No-Build Alternative would not provide the operating flexibility required for the growing rail freight traffic and maintenance of existing Amtrak rail passenger service.

## 2.2.2 New Siding Track and Track Construction (Build Alternative)

The Build Alternative includes the proposed improvements shown in *Figure 2*. Specific elements of these improvements include:

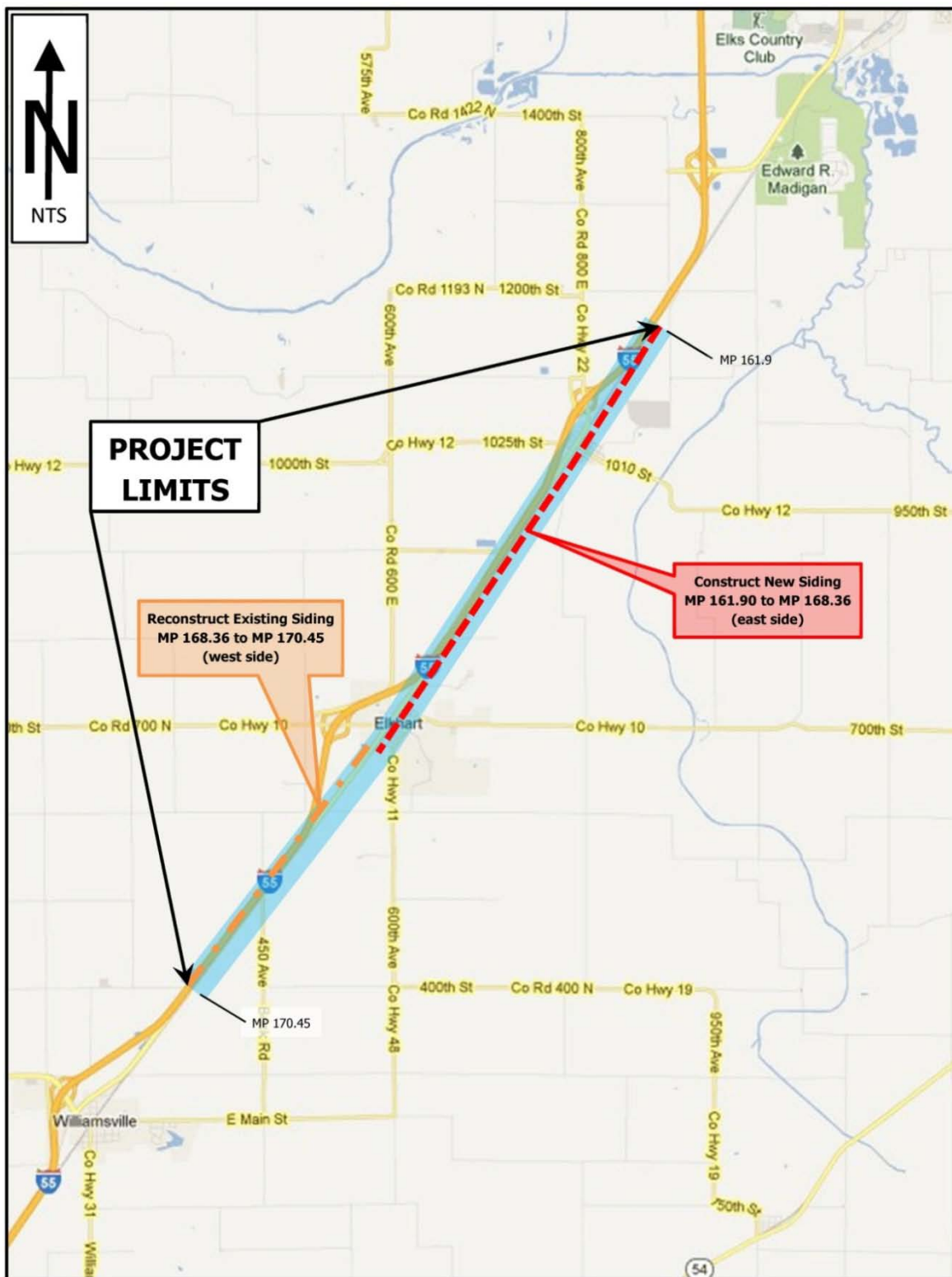
- reconstructing existing siding track (west side) from MP 168.36 to MP 170.45;
- extending the siding track by constructing new siding track from MP 161.90 to MP 168.36 (east side);
- reconstructing and replacing the existing UPRR mainline track where it connects with the siding;
- installing new signal equipment;
- installing new crossing gates with associated apparatus;
- replacing and/or reconstructing existing culverts;
- installing new switch gears;
- reconfiguring turning radii at roadway crossings;
- reconstructing pedestrian walkway crossings;
- reconstructing and realigning roadway approaches; and
- relocating or closing access driveways and pedestrian crossings.

Provision of a section of extended second main track (siding) in the vicinity of Elkhart addresses operational needs. The siding allows for dual track use between freights and both corridor and long-distance trains to occur without impeding the passenger trains' progress. Identification of the need for this track arrangement to be located in the Elkhart area was determined by UPRR's capacity analysis of the corridor's operation which resulted in optimized locations for sidings/extended second main track sections. The Elkhart Siding and Track Construction improvements, proposed as an integral element of the overall upgrades planned for the Chicago-to-St. Louis Corridor, would enable passenger service up to 110 mph throughout most of the study area. The current schedule of five (5) daily round trip passenger trains is anticipated to be maintained as part of the proposal. Of the five trips, four will be HSR and one is the existing long-distance Amtrak Texas Eagle service.

There are four at-grade rail/roadway crossings in the Project study area, two of which are located in Broadwell and Elkhart as shown in *Figures 3-5*. The other two rail/roadway crossings are in rural areas, noted as primarily being shrubland. Both crossings connect the frontage road on the east side of the UPRR tracks with Illinois Route 66 on the west side of the tracks. There are no grade-separated crossings with roadways in the Project study area.

There are eleven culvert crossings allowing for existing surface drainage swales to drain on either side of or underneath the rail line. Ten of the 11 culverts will be replaced and one will be extended. None of the culvert crossings require bridge replacements in the Project study area and there are no intersecting crossings on the UPRR mainline with other rail lines. Refer to *Figures 6-11* for culvert locations. The Project would require the acquisition of approximately 29.15 acres of ROW.

Figure 2 – Proposed Improvements



Source: google maps, 2013



Figure 3 – At-Grade Crossings



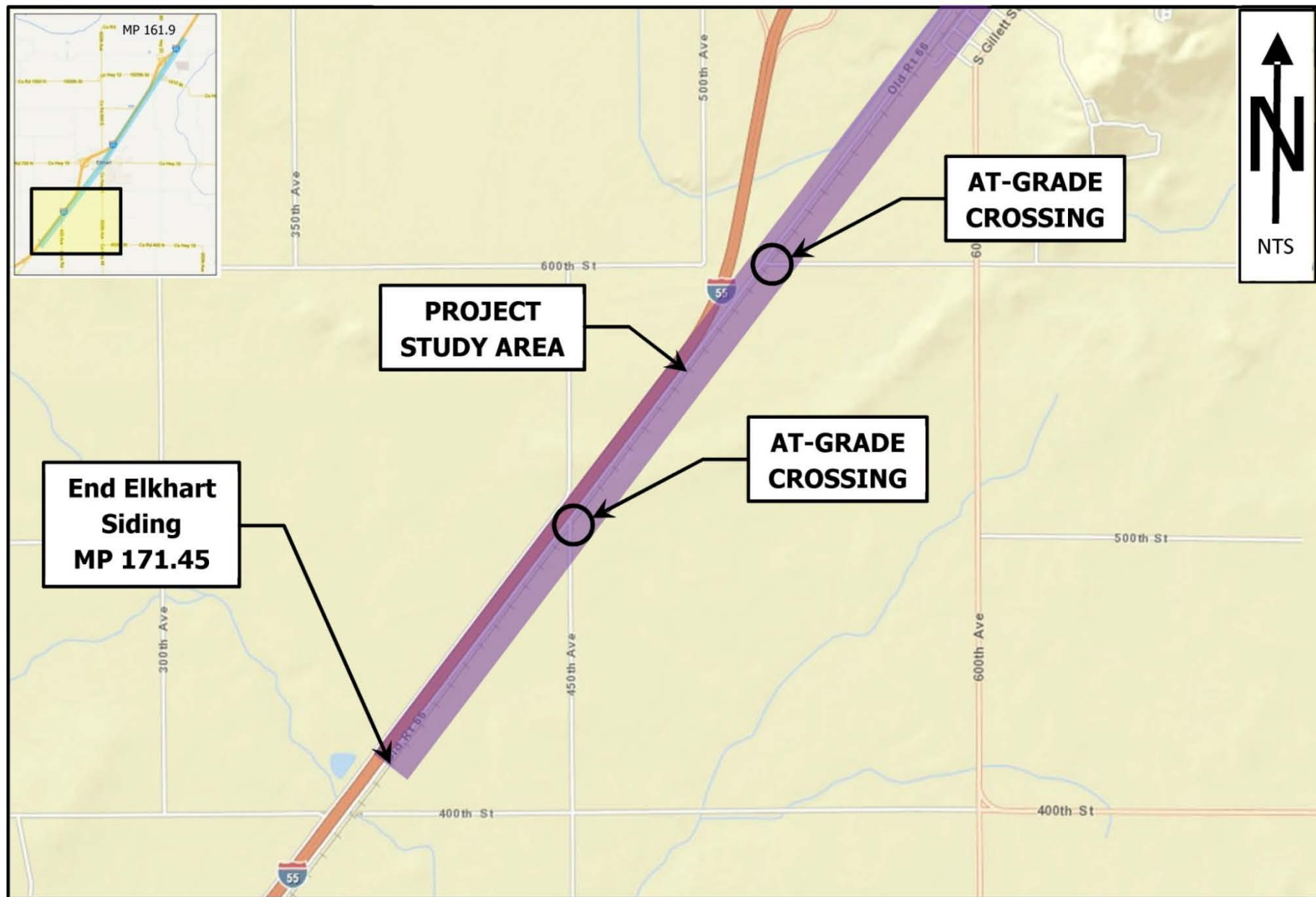
Map base: USF&WS NWI Mapping, 2013

Figure 4 – At-Grade Crossings



Map base: USF&WS NWI Mapping, 2013

Figure 5 – At-Grade Crossings



Map base: USF&WS NWI Mapping, 2013

## 3.0 Affected Environment, Environmental Consequences, and Mitigation

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This section describes the existing environmental resources within the Project study area and analyzes the potential beneficial and adverse impacts to these resources from the two alternatives retained for detailed study pursuant to FRA's Procedures for Considering Environmental Impact (64 FR 28545 (May 26, 1999)). The environmental resources have been categorized into three groups: the physical environment, ecological systems, and the human environment. These groups are presented in subsections 3.1, 3.2, and 3.3, respectively.

### 3.1 Physical Environment

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This subsection includes a discussion of the physical environmental resources potentially impacted by the proposed rail siding, track construction, and associated improvements throughout the Project study area. The resource categories of solid waste disposal, timber and mineral resources, and coastal zone management are not applicable to the proposed Project due to the geographic location and physical aspects of the Project study area and are therefore not included in the following sections. Where appropriate, mitigation measures are identified.

#### 3.1.1 Air Quality

Air pollutants are contaminants in the atmosphere. Many man-made pollutants result from the incomplete combustion of fuels including coal, oil, natural gas, and gasoline. The principal factors affecting air pollution concentrations with respect to transportation projects are traffic, emissions, mode type, terrain, meteorological parameters, and ambient air quality.

In accordance with the federal Clean Air Act, the U.S. Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for six pollutants considered harmful to public health and the environment. These are carbon monoxide (CO), lead, nitrogen dioxide (NO<sub>2</sub>), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), ozone and sulfur dioxide (SO<sub>2</sub>). Areas that do not meet the standards for these pollutants are designated as nonattainment areas and states must develop a State Implementation Plan (SIP) to improve the air quality in these areas and bring them into attainment by specific deadlines set by the EPA.

Federal agencies responsible for an action occurring in a nonattainment area are required to determine if the action conforms to the applicable SIP. The EPA has developed two sets of conformity regulations:

- Transportation Conformity - Transportation projects developed or approved under the Federal Aid Highway Program or Federal Transit Act [40 Code of Federal Regulation (CFR) Part 93, Subpart A; and
- General Conformity - Other projects 40 CFR Part 93, Subpart B.

This Project is not being developed or approved under the Federal Aid Highway Program or Federal Transit Act, therefore it is being reviewed using the general conformity regulations. As such, this Project requires a conformity determination for each pollutant where the total of direct and indirect emissions in a nonattainment area caused by a federal action would equal or exceed EPA-specified significant threshold values. In Illinois, general conformity criteria and procedures are set forth in 35 Illinois Administrative Code 255.

#### **3.1.1.1 Existing Conditions**

The Project study area is located entirely within Logan County. Logan County is currently in attainment with the National and Illinois Ambient Air Quality Standards for CO, PM10, Ozone, and/or PM2.5.

#### **3.1.1.2 Potential Impacts**

The No-Build Alternative would have no effect on air quality.

For the Build Alternative, the total annual estimated emissions generated along the Chicago-St. Louis HSR corridor are provided in *Appendix G*. The estimated increases in emissions of each pollutant are less than the general conformity applicability threshold values. General conformity applicability threshold values for both VOC and NOx emissions are each an increase in 100 tons per year. These estimated increases over the entire Chicago to St. Louis corridor are 2.5 additional tons of NOx and 0.13 tons of VOCs and are both below the general conformity thresholds.

The Build Alternative is unlikely to cause or exacerbate a violation of applicable NAAQS. It is also unlikely that the construction of the Build Alternative, which would follow state and local regulations regarding construction activities and equipment, would cause a violation of the applicable standards. As a result, the Project is not anticipated to result in significant adverse impacts to public health related to air pollutants and air toxics or contributions to greenhouse gas (GHG) emissions.

The Build Alternative may result in temporary construction-related increases in vehicle exhaust and emissions, and airborne particulate matter during equipment operation and the hauling of material. Construction dust associated with exposed soils would be controlled, if necessary, with the application of water and other approved dust palliatives. In addition, any hydrocarbons, NO<sub>2</sub>, SO<sub>2</sub> emissions, as well as airborne particulates created by fugitive dust plumes, would be rapidly dissipated because the location of the site where the prevailing winds allow for good air circulation. Overall, there could be a short-term, temporary degradation of local air quality during construction activities. Standard best management practices (BMPs) would be utilized during the construction process in order to minimize dust. Construction of the Build Alternative could improve air quality in the region in the long-term if fewer automobiles are utilized in the region and more people choose HSR as a transportation option. Refer to *Appendix G* for Air Quality data.

### **3.1.2 Energy**

The No-Build Alternative would not require construction. Passenger rail service under the No-Build Alternative would be a continuation of the existing five daily round trips between Chicago and St. Louis. Increased ridership resulting from the normal travel growth in the corridor, for the foreseeable future, would be accommodated by adding more cars to existing trains. Therefore, no changes in energy consumption are expected.

Construction of the Build Alternative would require consumption of energy for processing materials, construction activities, and maintenance for the new rail constructed within the Project limits. Energy by vehicles in the Project study area where the proposed improvements would take place may increase during construction due to possible traffic delays.

During construction of the improvements, additional energy would be expended beyond what would be used for normal operations. This additional energy would be consumed on a short-term basis as required for improvement of the existing siding track, construction of the new extended siding track, reconstruction of the mainline track and associated improvements to existing intersecting roadways. However, once the Project is operational, long-term energy savings are expected from more energy-efficient operations throughout the Project study area.

As with the No-Build Alternative, the Build Alternative would be a continuation of the five daily round trips between Chicago and St. Louis. As documented in the 2003 FEIS, travel by rail is more energy efficient than travel by air or private automobile. Since rail capacity can be increased at a relatively small incremental cost, any substantial increase in rail ridership that will arise from implementation of HSR service will result in conservation of travel-related energy. Additionally, locomotives, that would be used after construction of the Build Alternative, are designed to be more energy efficient than current locomotives. Under the Build Alternative, as HSR ridership increases and other less energy-efficient modes of travel experience a decrease, there would be potential for an overall net decrease in energy consumption.

### **3.1.3 Floodplains**

Federal protection of floodplains is afforded by Executive Order 11988, "Floodplain Management," and by implementation of federal regulations under 44 CFR part 9. These regulations direct federal agencies to undertake actions to avoid impacts on floodplain areas by structures built in flood-prone areas.

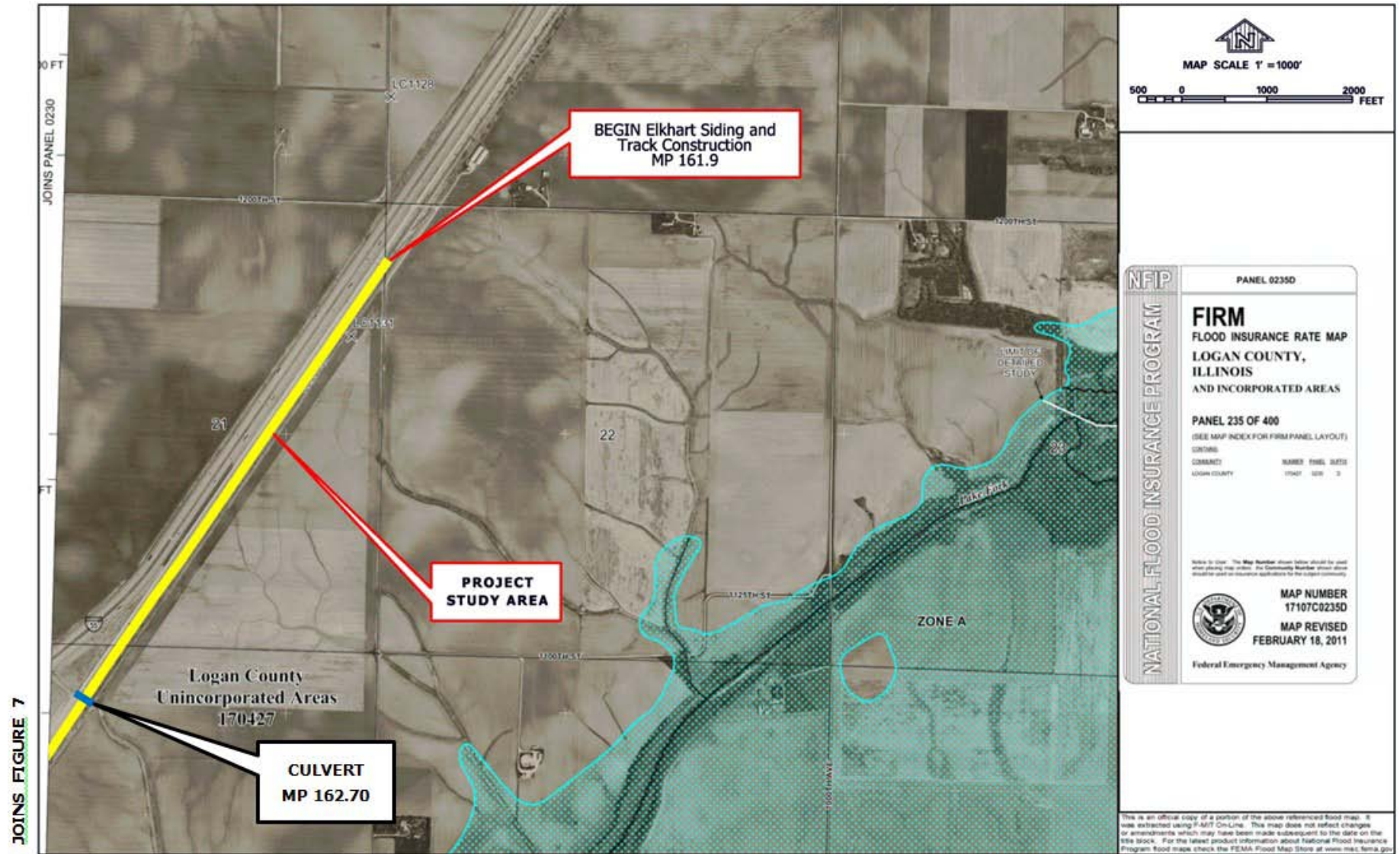
#### **3.1.3.1 Existing Conditions**

The Federal Emergency Management Agency (FEMA) has primary responsibility for identifying flood-prone areas. FEMA conducted flood studies and issued mapping in 2011 for Logan County. There are several small floodplains located within the Project study area that are shown on the FEMA Flood Insurance Rate Maps (FIRM). See *Figures 6-10* for FIRM maps for the project area.

Two sections of the mainline track fall within floodplain zones: At approximately MP 165.00, about 1.5 miles north of Elkhart, a narrow band of the Elkhart Slough floodplain extends diagonally across the mainline track (east-to-west), and is designated as Zone A. Also, between MP 167.00 and MP 168.00, an approximate 0.75-mile band of the Elkhart Slough floodplain extends from mid-Elkhart to approximately 0.5 miles south of Elkhart, and runs longitudinally along the west side of the mainline track. The floodplain extends onto either side of the railroad tracks for several hundred feet, and is designated as Zone AE. FEMA defines Zone A as areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones. Zone AE is defined as the base floodplain where base flood elevations are provided. AE Zones replace a former mapping designation of A1-A30 Zones. Zones A and AE are both defined as areas with a one percent annual chance of flood (100-year flood).



Figure 6 – FIRM Map



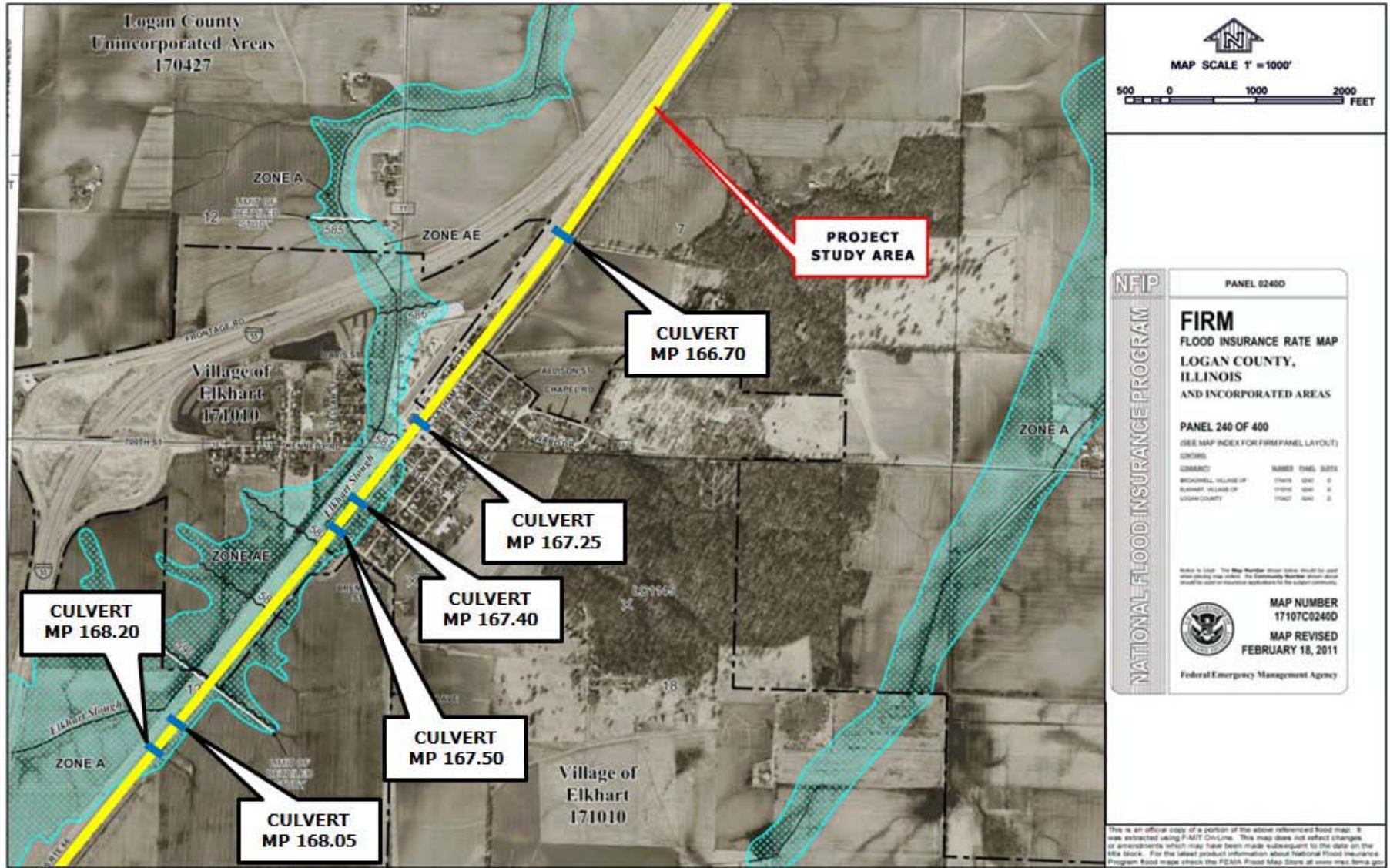


### Figure 7 – FIRM Map





Figure 8 – FIRM Map



JOINS FIGURE 10

Figure 9 – FIRM Map

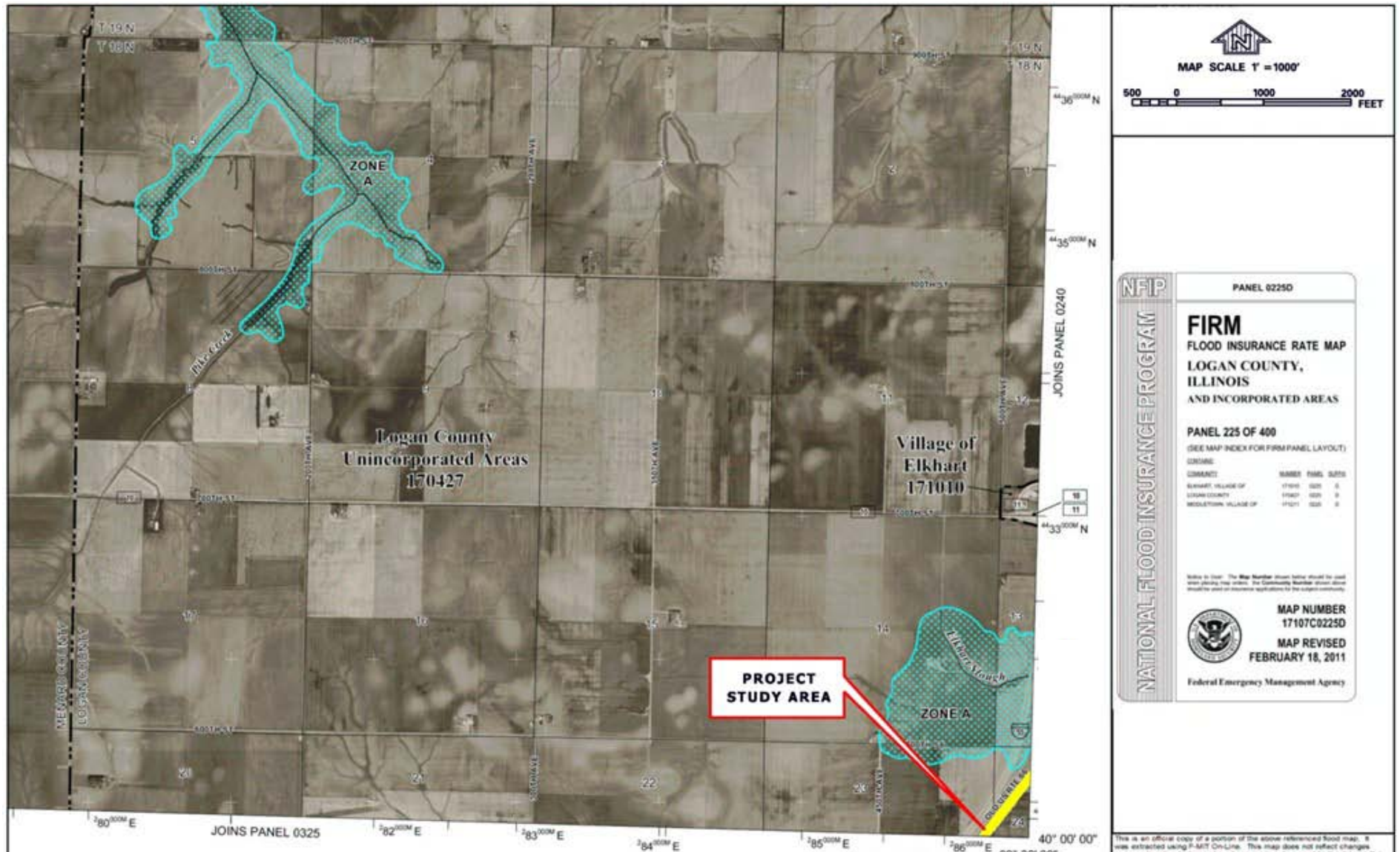
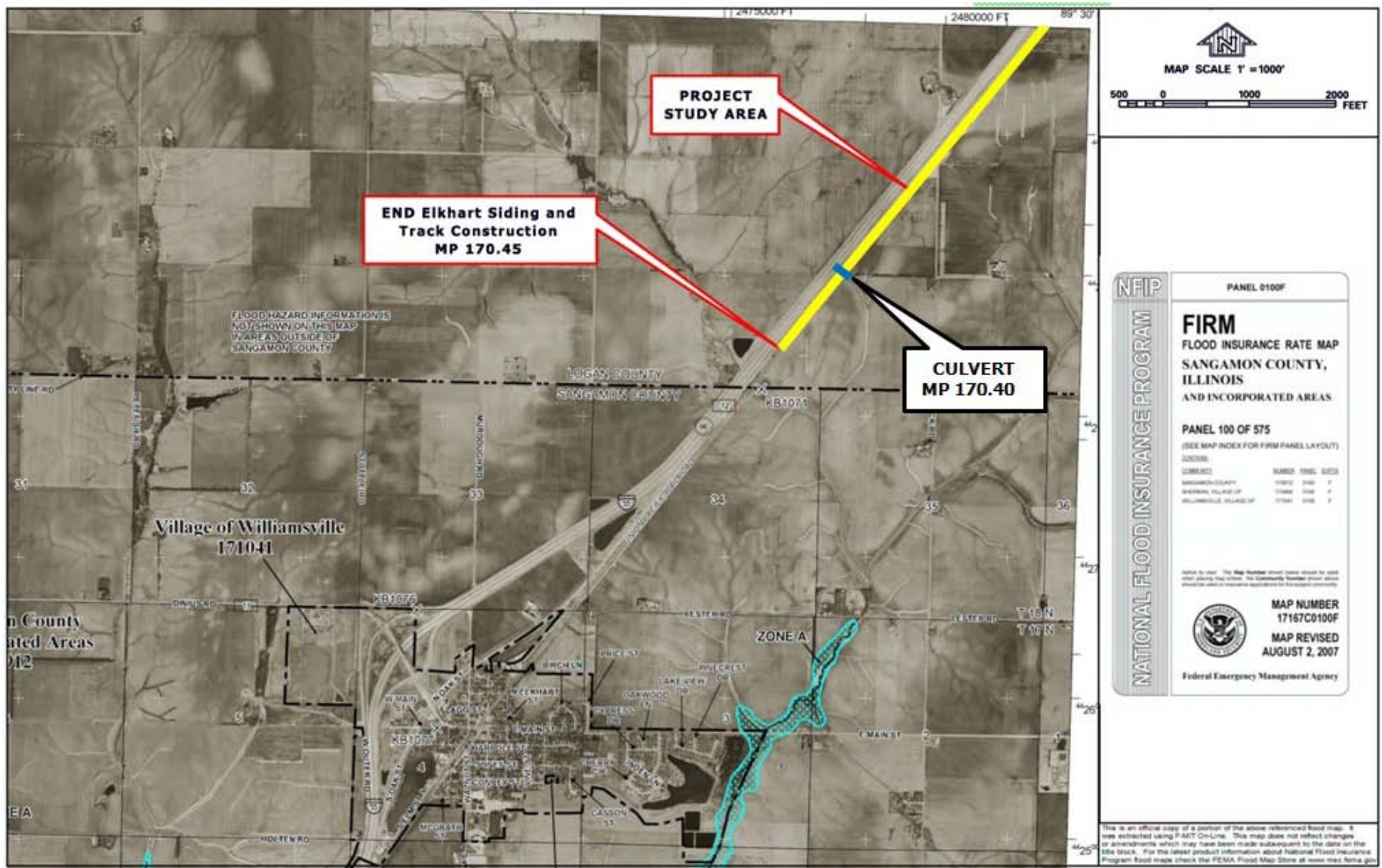




Figure 10 – FIRM Map



### **3.1.3.2 Potential Impacts**

The No-Build Alternative would not require any construction and would therefore not impact any 100-year floodplains.

The Build Alternative may permanently and temporarily impact 100-year floodplains within the Project study area. Three culverts occur within Zone A and two within Zone AE floodplains. Culvert replacement and /or widening may cause both permanent and temporary impact to these floodplains depending on the final engineering plans. Based on 90 percent engineering plans, the longitudinal impacts would be 2.22 acres and transverse impacts would be 1.46 acres. Per the 2004 ROD, work should be performed below the 100-year flood elevation, and as a result, this Project should not encroach upon the base floodplain elevation.

The Build Alternative would require eleven culvert crossings allowing for existing surface drainage swales to drain on either side of or underneath the rail line. None of the intermittent stream crossings require bridge replacement or installation in the Project study area. A swale is a man-made drainage system feature. An intermittent stream (as found on USGS mapping) is a natural drainage feature that does not have an observable flow during the entire year and is subject to fluctuations in precipitation, infiltration versus runoff, and evaporation rates.

#### Permits

A stormwater permit would be required for all hydraulic structures. A permit would also be required from the U.S. Army Corps of Engineers (USACE) and the Illinois Department of Natural Resources (IDNR) Office of Water Resources (OWR) for all structure replacements/extensions within federal and state jurisdictional streams and waterways. Culvert replacements and extensions required for Project construction are anticipated to comply with the IDNR OWR Statewide Permit, which does not require the permit application to be filed if certain construction requirements are met, as detailed in IDNR Statewide Permit 12. The IDNR OWR permit process includes floodplain considerations.

#### Mitigation

Areas where temporary floodplain impacts occur would be restored following Project construction. Permanent impacts would require proper sizing of hydraulic structures and compensatory storage where required.

### **3.1.4 Noise and Vibration**

#### **3.1.4.1 Existing Conditions**

An assessment of the potential for the Project to cause noise and vibration impacts was accomplished using the procedures provided by the FRA *High-Speed Ground Transportation Noise and Vibration Impact Assessment* guidance manual (U.S. Department of Transportation, Federal Railroad Administration, September 2012). The assessment evaluated noise and vibration for train operations under existing, No-Build and Build Alternatives.

The FRA screening procedure is used to identify sensitive receptors where the next level of analysis is appropriate. Using this approach, sensitive receptors with the potential for noise and vibration impacts are identified. Receptor locations within the screening distance are then evaluated using the general assessment level of analysis. If impacts are identified in the general assessment, a detailed analysis would be warranted.

### Noise

The Project study area covers an 8.55 mile corridor, most of which is located in rural areas. However, the rail line passes through two municipalities, (Broadwell and Elkhart) and two unincorporated communities (Fogarty and Mount Fulcher). Three categories are used for screening distances in assessing noise impacts: urban/noisy suburban, unobstructed (300 feet from center of mainline track); urban/noisy suburban, intervening buildings (200 feet from center of mainline track); and quiet suburban/rural (500 feet from center of mainline track). Only single-family residences within these two municipalities are within the FRA's urban/noisy suburban, unobstructed screening distances). The overall noise levels receive contributions from vehicular traffic, passenger train traffic, and freight train traffic. Existing noise levels for the Project study area can be found in *Table 1*. The location of the noise receptors may be found on exhibits in *Appendix C*.

**Table 1 – General Assessment Noise Analysis Results**

Receptor No.	RR Mile Post (Approx.)	Side of Track	Distance to Existing/ Siding Track, feet (Approx.)	Receptor Type <sup>1</sup> – Land-Use Category <sup>2</sup> (Urban/ Rural)	Project Noise Levels, dBA (L <sub>dn</sub> or L <sub>eq</sub> ) <sup>3</sup>			Build Increase Over Existing Main/Siding, dBA (L <sub>dn</sub> or L <sub>eq</sub> ) <sup>3</sup>	Allowed Increase (Moderate Impact), dBA (L <sub>dn</sub> or L <sub>eq</sub> ) <sup>3</sup>	Impact Determination
					Existing/ No-Build	Build/w Main Track	Build/w Siding Track			
R1	163.28	E	250/230	SFR-2, U	50	48	48	-2/-2	3	No Impact
R2	163.30	E	250/230	SFR-2, U	50	48	48	-2/-2	3	No Impact
R3	163.35	E	275/255	Com-3, U	49	47	48	-2/-1	8	No Impact
R4	163.37	W	280/300	SFR-2, U	49	47	46	-2/-3	3	No Impact
R5	163.44	E	260/240	SFR-2, U	49	47	48	-2/-1	3	No Impact
R6	163.46	E	260/240	Com-3, U	49	47	48	-2/-1	8	No Impact
R7	163.48	E	250/230	Com-3, U	50	48	48	-2/-2	8	No Impact
R8	163.51	E	250/230	Com-3, U	50	48	48	-2/-2	8	No Impact
R9	163.57	E	250/230	SFR-2, U	50	48	48	-2/-2	3	No Impact
R10	163.58	E	260/240	SFR-2, U	49	47	48	-2/-1	3	No Impact
R11	163.87	E	265/245	SFR-2, R	49	47	48	-2/-1	3	No Impact
R12	167.07	E	280/260	SFR-2, U	49	47	47	-2/-2	3	No Impact
R13	167.10	E	275/255	Com-3, U	49	47	47	-2/-2	8	No Impact
R14	167.11	E	270/250	Com-3, U	49	47	48	-2/-1	8	No Impact
R15	167.20	E	270/250	Com-3, U	49	47	48	-2/-1	8	No Impact
R16	167.24	E	275/255	Com-3, U	49	47	47	-2/-2	8	No Impact
R17	168.61	E	255/275	Com-3, R	49	47	47	-2/-2	8	No Impact

<sup>1</sup>SFR = single family residence, Com = Commercial building, U = Urban, R = Rural

<sup>2</sup>Land-Use Category 2 – Residences and buildings where people normally sleep;

Land-Use Category 3 – Institutional land uses with primarily daytime and evening use

<sup>3</sup>Noise Metric L<sub>dn</sub> or L<sub>eq</sub> is dependent on the Land-Use Category: Land-Use Category 2 has a Noise Metric (dBA) L<sub>dn</sub> and Land-Use Category 3 has a Noise Metric (dBA) L<sub>eq</sub>

### Vibration

The screening assessment for potential vibration effects is based on land use coupled with general assumptions for screening distance obtained from the FRA *High-Speed Ground Transportation Noise and Vibration Impact Assessment* guidance manual (U.S. Department of Transportation, Federal Railroad Administration, September 2012). The screening distance for residential land uses with infrequent events along a corridor with speeds less than 100 mph is 60 feet. For speeds between 100 and 200 mph, the screening distance is 100 feet. The FRA general assessment procedures for vibration were used to analyze existing vibration levels. *Table 2* includes information for existing vibration levels, which are the same as the No-Build Alternative. The location of the vibration receptors may be found on exhibits in *Appendix C*.

**Table 2 – Ground-borne Vibration General Assessment**

Receptor No.	Distance to Existing/Siding Track, feet	Existing Vibration Level, VdB	No-Build Vibration Level, VdB	Build Vibration Level, VdB		Increase in Vibration Level, VdB		FRA Criteria (Infrequent Events), VdB <sup>1</sup>	Impact Determination
				Existing Track	Siding Track	Existing Track	Siding Track		
Broadwell: R1	95/75	71	71	74	*	3	N/A	80	No
Broadwell: R2	65/45	74	74	77	74	3	0	80	No
Broadwell: R3	65/45	74	74	77	74	3	0	80	No
Elkhart: R4	90/70	71	71	74	*	3	N/A	80	No
Elkhart: R5	65/45	74	74	77	74	3	0	80	No

<sup>1</sup> VdB is a logarithmic scaling of vibration magnitude

N/A – Exceeds the screening distance for trains with speeds less than 100 mph as found on the siding track.

### **3.1.4.2 Potential Impacts**

#### Noise

The No-Build Alternative would not create any change in noise impacts from the existing conditions since there would be no change in passenger train operations. Also, all Amtrak trains passing through the Project study area (between MP 161.9 and MP 170.45) make no stops.

The 2004 ROD noise analysis used the distance of 250 feet as the limit of the analysis. As stipulated in FRA 2012 publication, the screening distance increased in urban areas to 300 feet and in rural areas to 500 feet. Therefore, the only receptors considered for analysis in this EA are located between 250 and 300 feet in urban areas and 250 to 500 feet in rural areas. The proposed Project improvements were evaluated for noise impacts associated with the construction of the Build Alternative, as previously detailed in Section 2.2. *Table 1* includes the existing /No-Build noise levels and the noise levels for the Build Alternative. Seventeen (17) sensitive receptors were identified within the screening distance.

While vehicular traffic contributes to the overall noise level, the construction of new siding track and reconstruction of the existing mainline track would not change vehicular traffic substantially since the existing traffic flow is expected to change minimally with the Build Alternative. Therefore, vehicular traffic was not considered in the impact evaluation. Also, the Build Alternative should not re-distribute or change vehicular traffic patterns and would not add capacity to the overall highway/street system. However, due to the study area being within

an active rail corridor, at the three municipal locations, with the trains being the dominant noise source, the passenger train traffic and freight train traffic were taken into consideration. The impact evaluation is based on the comparison of the existing train noise and the train noise under the Build Alternative condition.

There would be no noise impacts on sensitive receptors from the Build Alternative since the current five daily round-trip passenger trains traveling between Chicago and St. Louis would continue to pass through the Project study area as those passenger trains currently do. . Likewise, since no changes in the levels of freight train noise are expected, the overall noise levels would remain similar to existing conditions for freight trains. Since there are no stops in any of the urban areas in the Project study area, only slow-downs to conform to speed limits in populated areas, the No-Build Alternative and the Build Alternative are not expected to adversely impact any of the noise receptors. As shown in *Table 1*, the Build Alternative would be two dBA levels lower than the existing noise levels. An impact to a noise receptor would only occur if there had been an increase in dBA levels of three dBA or more. It should be noted that a difference of two dBA is not considered a discernible/noticeable difference.

Trucks and machinery used for construction produce noise which may affect some land uses and activities during the construction period. Residents adjacent to the study area corridor would at some time experience perceptible temporary construction noise from implementation of the Build Alternative. During construction, all equipment will be in good working order and maintenance, including the exhaust systems. Additionally, any temporary impacts would cease immediately after the construction activity is completed.

#### Vibration

Sensitive receptors identified within the 60-foot and 100-foot screening distance were evaluated for potential vibration impacts. Five sensitive receptors (three in Broadwell and two in Elkhart) were identified between the 60-foot and 100-foot distance.

Since passenger trains would not be stopping in any of the population centers, there would be no alterations in vibration impacts for both the No-Build and the Build Alternative as train speeds would be virtually the same under either scenario. Therefore, only vibration effects for freight trains were included in the analysis in *Table 2*. As shown in *Table 2*, the change in speed for the Build Alternative, in relation to calculating the VdB, did not result in great differences between the existing and the build conditions. Even with the increase of 3 VdB for the Build Alternative, the increases were still considerably below the threshold criteria of 80 VdB.

Based on the ground-borne vibration analysis for the study, vibration impacts are not anticipated as part of the proposed Project for either the No-Build or Build Alternative. There are no ground-borne noise impacts associated with vibration as the ground-borne noise levels are less than the FRA impact criteria. Refer to *Appendix C* for Noise and Vibration data.



### Mitigation

UPRR will ensure that all equipment will be in good working order and maintained, including the exhaust systems.

## **3.1.5 Agriculture**

### **3.1.5.1 Existing Conditions**

Agriculture is the primary land use in the Project study area except for the urban areas of Elkhart and Broadwell. The main agricultural crops are row crops, primarily corn and soybeans. Refer to *Appendix E Field Studies Report* for a field survey from 2012 which include vegetation cover types within the Project study area including agricultural land. The existing UPRR track severed whatever farm properties were in existence when the track was originally constructed. Because there are no new alignments associated with the Build Alternative, only the addition of a siding track adjacent and contiguous with the existing track, there are no severed farm units resulting from the proposed improvements under the Build Alternative. Note on field survey, the report includes areas outside of the scope of this EA.

### Soils/Prime and Important Farmlands

Soil types located within the Project study area include Broadwell, Spaulding, Buckhart, and Ipava. Ipava is considered a prime farmland soil.

Illinois soils fall into one of three categories: (1) Prime Farmland; (2) Important Farmland; and (3) Other Land as defined by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS). Prime farmland is defined as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber and oilseed crops. It may exist as cropland, pastureland, rangeland, forest land, or other land, but is not designated in urbanized areas or in bodies of water. Farmland of statewide importance is land, other than prime farmland, that is also highly productive but generally less productive than prime farmland and/or possesses greater restrictions that negatively affect its use for agricultural purposes. Other land may have the potential for use as farmland, but some restriction(s) prevents its use for agriculture.

Coordination with NRCS is not required because the proposed ROW and proposed easements, outside municipal limits, total 1.5 acres per mile, which is less than the three acres per mile stipulated in the May 2008 Cooperative Agreement between IDOT and the Illinois Department of Agriculture and the IDOT Bureau of Design and Environment (BDE) manual (June 2011) as the trigger point in which coordination is required for transportation projects. Additionally, Logan County does not have an approved Land Evaluation Site Assessment (LESA) program necessary to evaluate prime farmland impacts.

### Agricultural Zoning

There is no agricultural zoning in Logan County.

### Private Farm Crossings

There are no identified private farm crossings in the Project study area. The farm crossing designated at MP 166.20 is accessed via a public frontage road that is rarely used by farmers in the area.

### **3.1.5.2 Potential Impacts**

A total of 29.15 acres of ROW would be impacted by the Build Alternative, of which 11.77 acres is prime farmland soil.

### Severed Farm Units

A farm unit is defined as one or more parcels of land that are farmed as a single operation. It is farmed under one management, although it may be under multiple ownerships. As defined in the Illinois Department of Agriculture's Land Evaluation and Site Assessment, revised August 2001 (LESA), a severed farm parcel, created when a tract of farmland is traversed by a corridor project, results in dividing one larger tract of land into two smaller parcels. Although access is still maintained to the disjoined parcels, the owner/operator is inconvenienced by the necessity of farming two smaller parcels of land rather than one larger tract of land. Because the farmland adjacent to the UPRR has already been severed, there are no new severed farm parcels. Therefore, the No-Build and Build Alternatives do not create any severed farm parcels.

### Severance Management Zones

Severance management zones are those areas of a farm, which, after being diagonally intersected by a proposed improvement (such as new railroad ROW), are adversely affected by the resulting triangular shape. These zones often cause problems for continued farming. The resulting triangular design makes it difficult to turn a tractor and farm implements without damaging or removing plants or a causing misapplication of farm chemicals, which often result in production loss. Since no one parcel under the same ownership exceeds the minimum five acres, it has been determined there will be no severed management zones in the Project area resulting from the proposed improvements under the Build Alternative.

### Uneconomical Remnants

As defined in LESA, uneconomical remnants are parcels of farmland that are severed from larger tracts of farmland and are too small to be economically or practically farmed by the existing owner/operator. Since there are no severed farm parcels within the Project study area, there are also no uneconomical remnants; therefore, the No-Build and Build Alternatives do not create any uneconomical remnants.

### Landlocked Parcels – No Access

There are no landlocked farm parcels being created by the planned improvements in the Project study area. The farm crossing designated at MP 166.20 is accessed via a public frontage road that is rarely used by farmers in the area.

### Agricultural Protection Areas

The Agricultural Areas Conservation and Protection Act, enacted in 1980, allow for parcels of land greater than 350 acres in size to be designated as agricultural protection areas. No known agricultural protection areas in the Project study area will be affected by the proposed improvements under the Build Alternative.

### Agricultural Income Loss

Based on limited ROW land acquisition required to implement the proposed improvements under the Build Alternative in the Project study area, the loss in agricultural income would be negligible. No farm residences or agricultural buildings would be affected by the Build Alternative. The No-Build Alternative would not impact any agricultural area.

### Prime Farmland

Although Tama, Ipava, Osco, and Buckhart are considered prime farmland soil in Logan County (see *Appendix D*), the areas within the Project study area that have these soils are located on land not actively used, or unlikely to be used, for crops/farms. Proposed improvements under the Build Alternative would have minimal impact on these prime farmland soils, and agricultural soils in general. As stated before, approximately 11.77 acres of prime farmland would be impacted that includes temporary and permanent easements.

The No-Build Alternative would result in no changes to the agricultural land along the Project study area.

For the Build Alternative, there would be minimal impacts to agricultural land along the Project area, resulting in no measurable losses in crop productivity. A total of 29.15 acres of ROW would be impacted by the Build Alternative, of which 11.77 acres is prime farmland soil. However, none of the proposed ROW acres are located on land utilized for crop production. Refer to *Appendix D* for the Soils Report.

## **3.1.6 Tree Resources**

### **3.1.6.1 Existing Conditions**

As documented in the 2012 Fall Field Studies Union Pacific Mile Posts 161.00 to 171.00 Logan County report, a screening evaluation of forest and tree resources was conducted for the Elkhart

Siding and Track Construction Project study area. As the proposed improvements are located primarily within the existing railroad ROW, there are few trees that would potentially be impacted. The 2012 field studies report indicated that there are no forested areas within the Project area. In general, the dominant cover types along the corridor are grassland, hedgerow and shrubland. The remaining portions of the Project study area contain developed land which is dominant within two urban areas; Broadwell and Elkhart.

Limited pockets or areas of trees, considered shrubland, are located in the Project study area along fence-rows or in developed areas. Shrubland cover type consists of shrubs and trees shorter than 5m (16.5 ft.) and has a shrub canopy cover of at least 25%. Tree species identified in the 2012 field studies report are:

- common hackberry (*Celtis occidentalis*)
- eastern cottonwood (*Populus deltoides*)
- American elm (*Ulmus americana*)
- slippery elm (*Ulmus rubra*)

Sections of the ROW are heavily disturbed considering the routine vegetative maintenance that occurs to ensure that trees do not encroach upon the tracks. Therefore, the majority of the trees present within the ROW are small (less than 8 inches, diameter at breast height, DBH).

#### **3.1.6.2 Potential Impacts**

The No-Build Alternative would not impact trees as there would be no proposed work or construction.

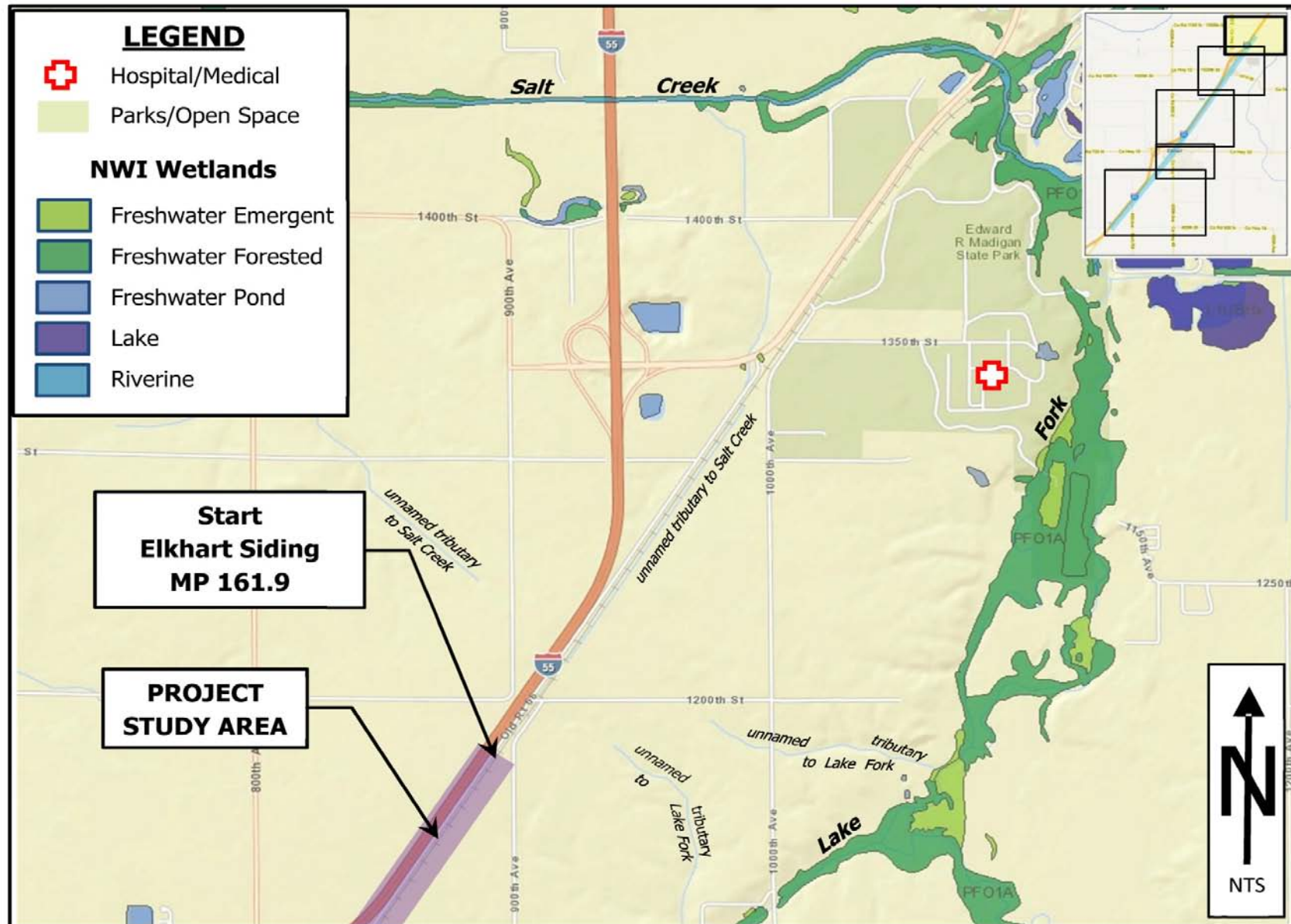
The Build Alternative's proposed improvements are planned to occur primarily within or adjacent to existing railroad ROW. Tree impacts as a result of the proposed Project are anticipated to be minimal. Tree removal and mitigation is also discussed in Section 3.2.3.2, under the Mitigation subsection of the Threatened and Endangered Species section, specifically in regard to the Indiana bat (*Myotis sodalis*).

## **3.2 Ecological Systems**

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This section describes the ecological systems to be served or affected by the proposed Project. Included in this section is a discussion of the water quality and resources, threatened and endangered species, and special lands as they relate to the Build Alternative. Where appropriate, mitigation measures are identified. The inventory of environmental resources may be found in *Figures 11-15*.

Figure 11 – Environmental Inventory



Map base: USF&WS NWI Mapping, 2013  
 NWI – National Wetland Inventory

Figure 12 – Environmental Inventory



Map base: USF&WS NWI Mapping, 2013  
NWI – National Wetland Inventory

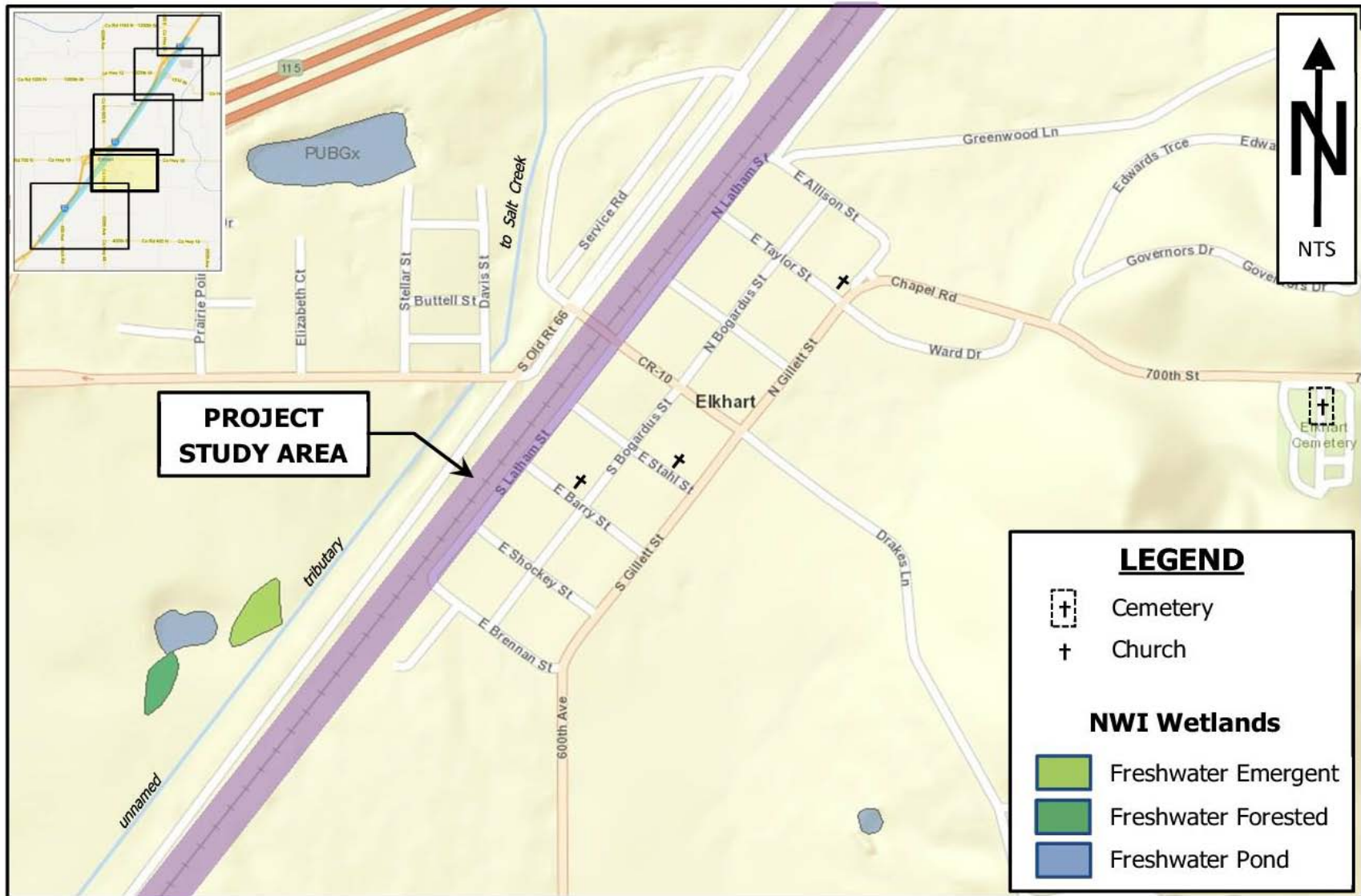


Figure 13 – Environmental Inventory



Map base: USF&WS NWI Mapping, 2013  
NWI – National Wetland Inventory

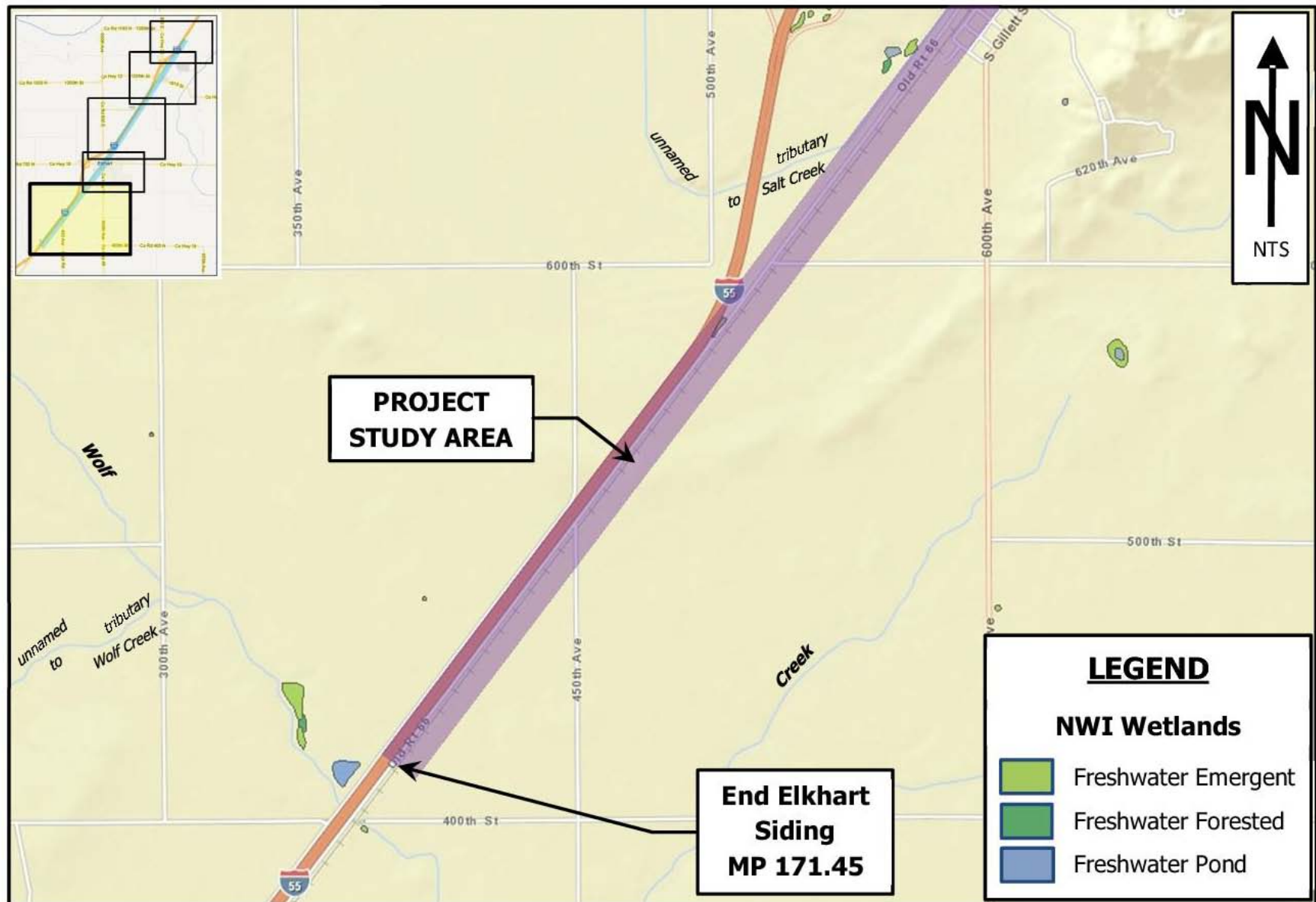
Figure 14 – Environmental Inventory



Map base: USF&WS NWI Mapping, 2013  
NWI – National Wetland Inventory



Figure 15 – Environmental Inventory



Map base: USF&WS NWI Mapping, 2013

NWI – National Wetland Inventory

### 3.2.1 Wetlands and Waters of the US

Wetlands are defined by the USACE and the EPA as:

“Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (Title 33 CFR Section 328.3 (b) and Section 404 of the Clean Water Act).

Executive Order 11990, “Protection of Wetlands,” requires federal agencies to avoid, to the extent practicable, short and long-term impacts associated with the destruction or modification of wetlands. More specifically, it directs federal agencies to avoid new construction in wetlands unless there is no practical alternative. In addition, it states that where wetlands cannot be avoided, the proposed action must include all practical measures to minimize harm to the wetlands.

For purposes of the Clean Water Act, “Waters of the United States” (WOUS) means:

(a) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (b) All interstate waters, including interstate “wetlands”; (c) All other waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters: (1) Which are or could be used by interstate or foreign travelers for recreational or other purposes; (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (3) Which are used or could be used for industrial purposes by industries in interstate commerce; (d) All impoundments of waters otherwise defined as waters of the United States under this definition; (e) Tributaries of waters identified in paragraphs (a) through (d) of this definition; (f) The territorial sea; and (g) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition.

Section 10 of the Rivers and Harbors Act of 1899 (33 USC §403) and Section 404 of the Clean Water Act (33 USC § 1344) authorize permits for placement of structures, dredged, or fill material into the “Waters of the U.S.” Section 3.2.2 includes information on surface waters for the Project study area. The below sections discuss the wetlands found within the Project study area.

#### 3.2.1.1 Existing Conditions

Wetlands in the Project study area were identified using the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) mapping combined with aerial photography review and field confirmation including wetland delineations and surveys. The delineated

wetlands may be found in *Figures 16-19*. Wetlands encountered fall within the Salt Creek drainage area of the Salt Watershed, hydrologic unit code (HUC) 07130009. Refer to the Wetland Delineation Report in *Appendix F* for identification additional wetlands that were not previously mapped in the NWI. Note that the Wetland Delineation Report includes areas outside of the Project limits.

Wetland conditions were assessed throughout the Project study area and were delineated in the field during investigations conducted in Fall 2010, Spring 2011, and Spring 2012. The wetland delineations associated with these investigations are contained herein as these are locations with a high potential for ROW acquisition and/or work within WOUS.

Four types of wetland plant communities, as defined by USFWS, were identified in the Project study area. These include open water, emergent, shrub, and forested. Open water habitats include WOUS. Emergent wetlands were generally herbaceous-dominated wetlands in depression areas or along the banks of the creek. The shrub and forested wetlands are primarily along the banks of creeks. Forested wetlands are dominated by trees and include depression and riparian areas. Refer to Section 3.2.2 for surface water information, including intermittent streams located within the Project boundary limits for the siding. Refer to *Table 3* for wetlands that would be impacted by the Build Alternative.

None of the wetlands found along the UPRR tracks are considered to be High Quality Aquatic Resources (HQARs). HQARs are aquatic area considered to be regionally critical due to their uniqueness, scarcity, and/or value, and other wetlands considered to perform functions important to the public interest, as defined by USACE. An item within the HQARs category is Advanced Identification (ADID) wetlands. ADID sites are aquatic sites that have been previously identified by the Chicago District ACE and USEPA as areas generally unsuitable for disposal of dredged or fill material. Logan County has not adopted the USEPA Advanced Identification (ADID) program, which inventories high quality areas. Therefore, no ADID wetlands are located within the Project limits or within the entire county.

Under the implementing regulations of the Illinois Interagency Wetland Policy Act of 1989 (IWPA), impacts to wetlands having a Floristic Quality Index, (FQI) rating of 20 or greater require 5.5 to 1.0 mitigation ratios. An FQI is a standardized tool, introduced by Floyd Swink and Gerald Wilhelm of the Morton Arboretum, replaces subjective assessments, and although approximate, provides a useful number for comparing various natural areas. There are no high quality wetlands within the Project study area and therefore no high quality wetland areas will be affected by the Build Alternative. An FQI score below 10 suggests a site of poor natural quality; below five, a highly disturbed site of very poor natural quality. Conversely an FQI value of between 10 and 20 suggest a site of fair natural quality and an FQI of 20 or more suggests that a site has evidence of native character and may be considered an environmental asset. The C-value is a number between 0 and 10 assigned to individual plant species by a panel of experts with knowledge of the native flora of a particular region.



Figure 16 – Wetlands

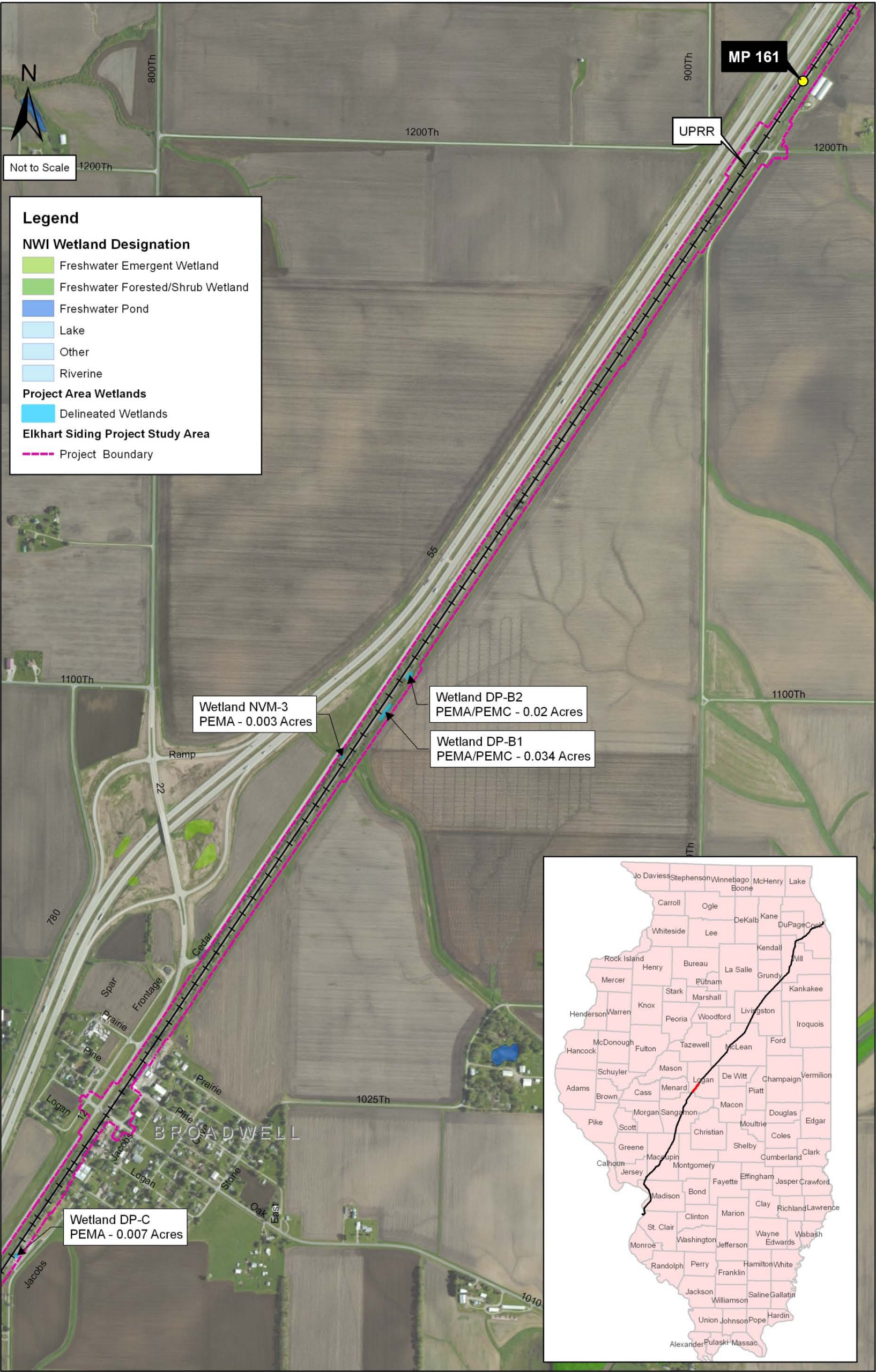




Figure 17 – Wetlands

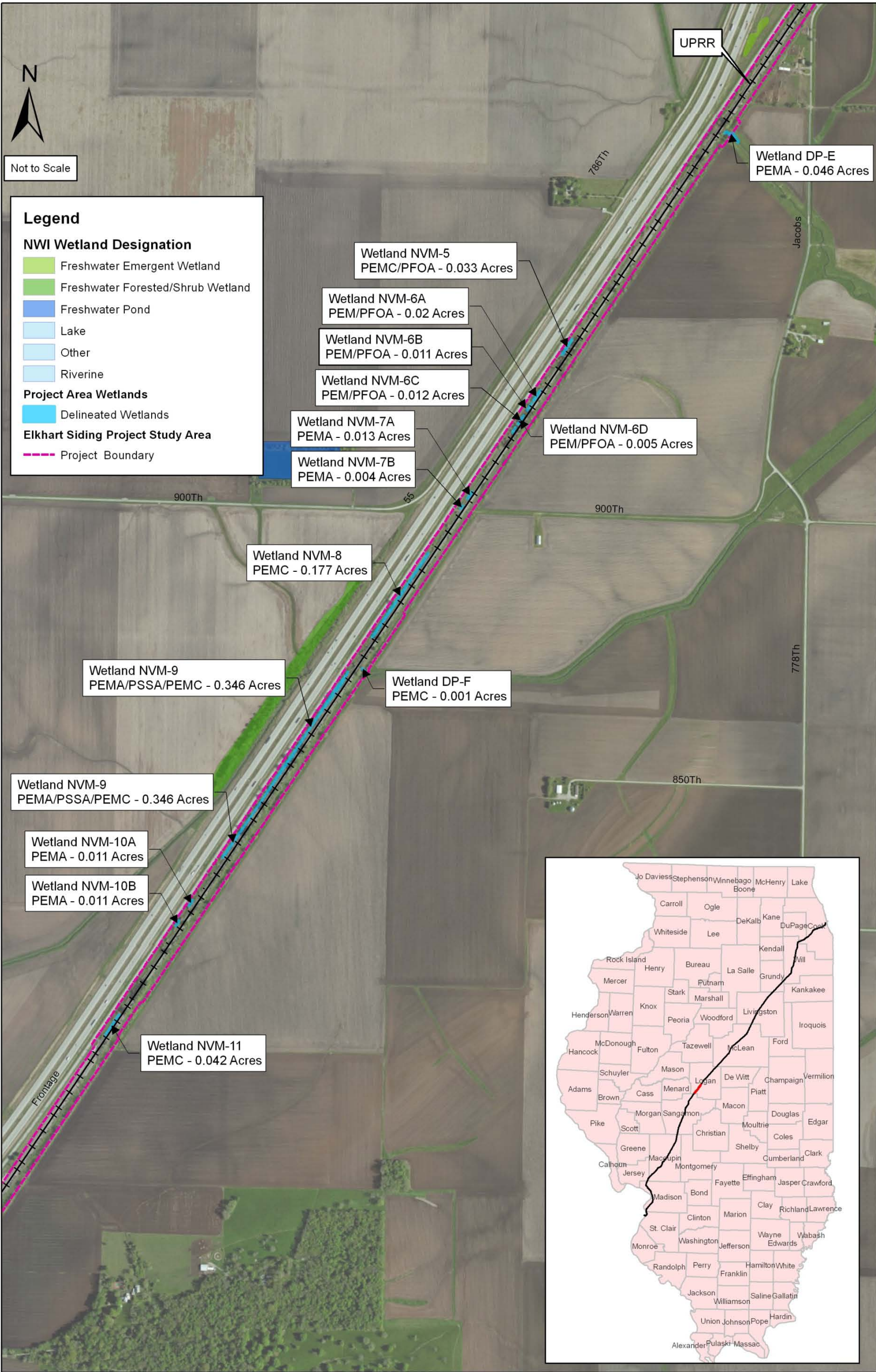




Figure 18 – Wetlands

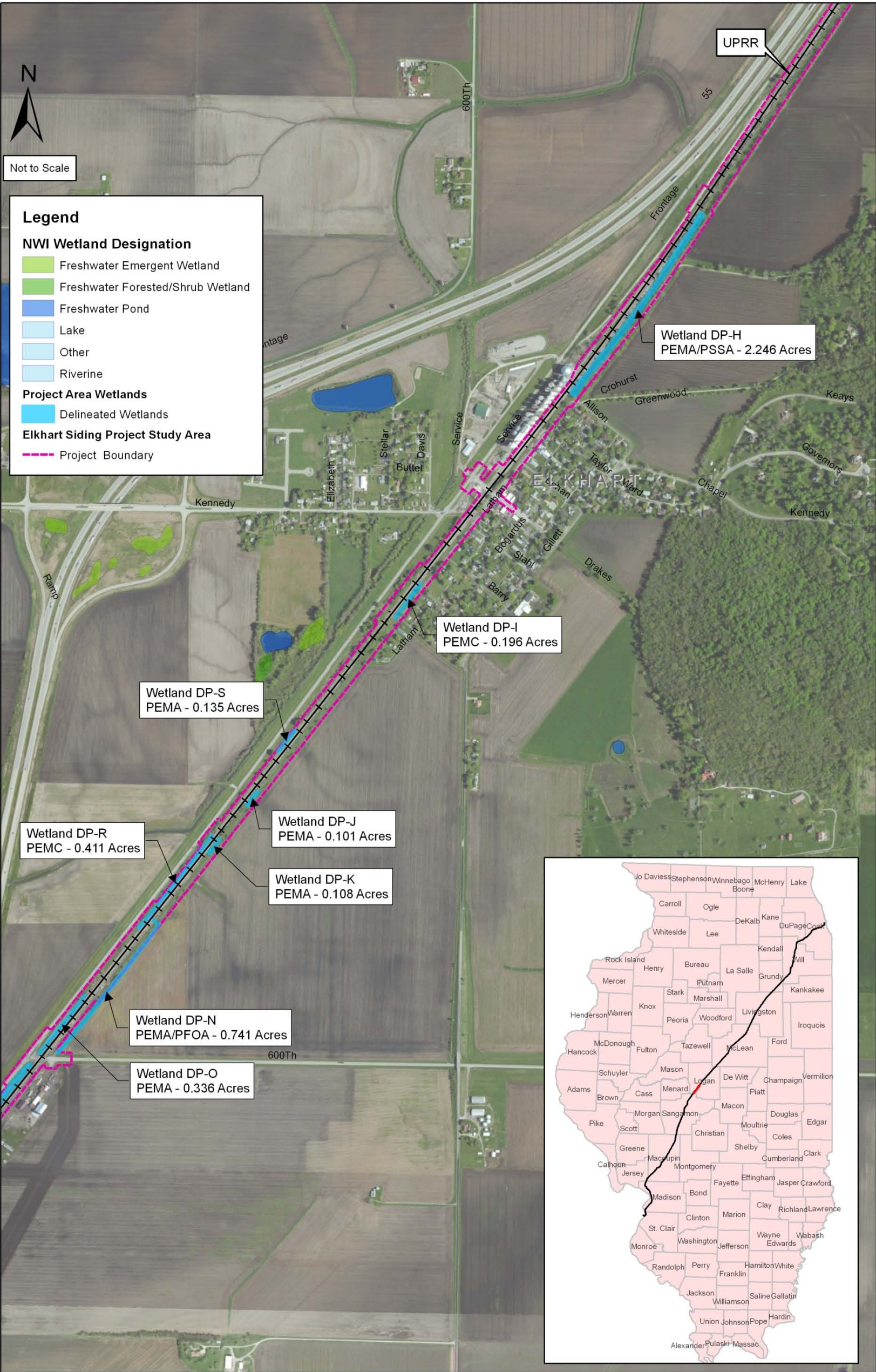
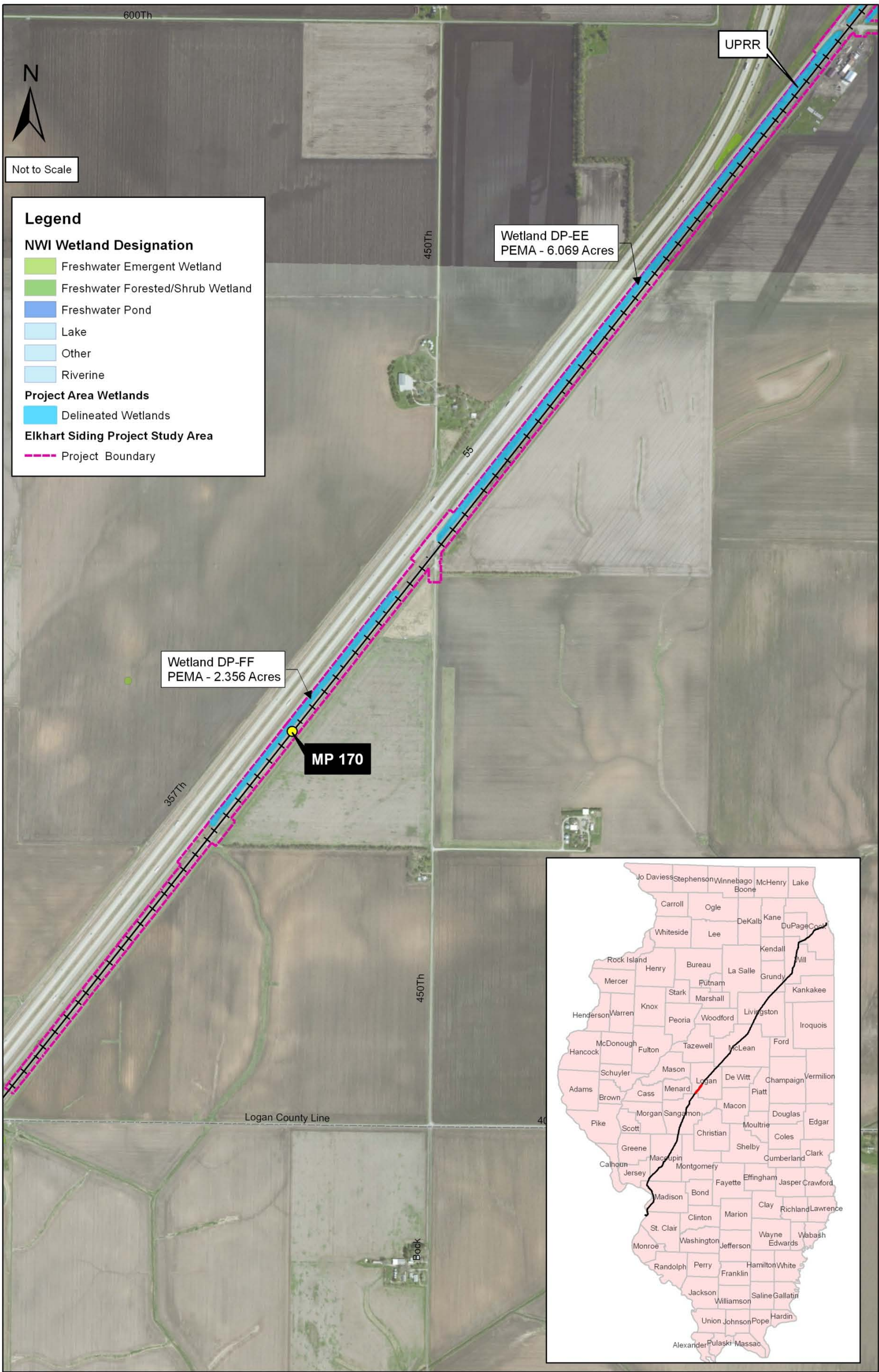




Figure 19 – Wetlands



There were no areas within the Project limits that met the criteria for farmed wetlands as defined by the Food Securities Act of 1985 (16 U.S.C. §§ 3801-3862).

### 3.2.1.2 Potential Impacts

The No-Build Alternative would not include any construction activities and therefore would not impact any existing wetlands.

The assessment of potential wetland impacts is based upon direct and indirect impacts related to the construction of the Build Alternative which includes areas within the proposed ROW and environmental survey limits. Construction would include placement of fill and embankment for new track adjacent to the existing tracks. Wetland impacts related to construction would include vegetation removal, placement of clean fill, and changes to the wetland hydrologic regime. Besides the loss of wetland acreage, some wetland functions and values could be affected by the proposed Project. Approximately 8.538 acres of wetlands would be impacted by the Build Alternative. There would be no impacts to streams. *Table 3* shows anticipated wetland impacts from the proposed improvements. Impacts are assumed to occur only in areas where known additional ROW may be necessary. As indicated in *Table 3*, the FQI ratings for all but one of the wetlands were below 10; with one wetland rated a 10.96. Refer to *Figures 16-19* Wetlands for both NWI and delineated wetlands within the Project study area. Refer to *Appendix F* for the Wetland Delineation Report. Note on Wetland Delineation Report, the report includes study areas beyond the scope of this EA and is a reference for additional HSR projects.

**Table 3 – Impacted Wetlands**

No.	MP (Approx.)	Side of RR	Wetland ID	Sample Points	Cowardin Classification <sup>1</sup>	Size (Acres) <sup>2</sup>	Mean C <sup>3</sup>	FQI <sup>4</sup>	Acres Impacted <sup>5</sup>	Figure Ref.
1	162.6	E	DP-B1	DP 6	PEMA/PEMC	0.034	4.33	7.50	0.030	Elkhart Siding (Fig 2B)
2	162.6	E	DP-B2	DP 6	PEMA/PEMC	0.020	4.33	7.50	0.014	Elkhart Siding (Fig 2B)
3	162.7	W	NVM-3	NVM 8	PEMA	0.003	0.00	0.00	0.002	Elkhart Siding (Fig 2B)
4	163.9	E	DP-C	DP 7	PEMA	0.007	0.00	0.00	0.007	Elkhart Siding (Fig 2C)
5	164.1	E	DP-E	DP 9	PEMA	0.046	0.00	0.00	0.005	Elkhart Siding (Fig 2D)
6	164.7	W	NVM-5	NVM 19	PEMC/PFOA	0.033	1.75	3.50	0.005	Elkhart Siding (Fig 2E)
7	164.8	W	NVM-6A	NVM 21	PEM/PFOA	0.020	2.00	2.00	0.014	Elkhart Siding (Fig 2E)
8	164.8	W	NVM-6B	NVM 21	PEM/PFOA	0.011	2.00	2.00	0.011	Elkhart Siding (Fig 2E)
9	164.8	W	NVM-6C	NVM 21	PEM/PFOA	0.012	2.00	2.00	0.013*	Elkhart Siding (Fig 2E)
10	164.8	W	NVM-6D	NVM 21	PEM/PFOA	0.005	2.00	2.00	0.006*	Elkhart Siding (Fig 2E)
11	164.9	W	NVM-7A	NVM 23	PEMA	0.013	0.00	0.00	0.014*	Elkhart Siding (Fig 2E)



No.	MP (Approx.)	Side of RR	Wetland ID	Sample Points	Cowardin Classification <sup>1</sup>	Size (Acres) <sup>2</sup>	Mean C <sup>3</sup>	FQI <sup>4</sup>	Acres Impacted <sup>5</sup>	Figure Ref.
12	164.9	W	NVM-7B	NVM 23	PEMA	0.004	0.00	0.00	0.004	Elkhart Siding (Fig 2E)
13	165.2	W	NVM-8	NVM 25	PEMC	0.177	2.50	3.53	0.120	Elkhart Siding (Fig 2E & 2F)
14	165.2	E	DP-F	CP DP 9	PEMC	0.001	0.00	0.00	0.001	Elkhart Siding (Fig 2F)
15	165.8	W	NVM-8, NVM-9	NVM 25, NVM 27	PEMA/PEMC/PSSA	0.346	2.33	4.03	0.309	Elkhart Siding (Fig 2F)
16	165.8	W	NVM-9	NVM 27	PEMA/PEMC/PSSA	0.346	2.33	4.03	0.058*	Elkhart Siding (Fig 2F)
17	165.9	W	NVM-10A	NVM 29	PEMA	0.011	0.00	0.00	0.012*	Elkhart Siding (Fig 2F)
18	165.9	W	NVM-10B	NVM 29	PEMA	0.011	0.00	0.00	0.012*	Elkhart Siding (Fig 2G)
19	166.0	W	NVM-11	NVM 31	PEMC	0.042	2.50	3.53	0.045*	Elkhart Siding (Fig 2G)
20	167.7	E	DP-H	DP 20	PEM/PSSA	2.246	4.50	9.00	0.943	Elkhart Siding (Fig 2H)
21	167.9	E	DP-I	DP 21	PEMC	0.196	2.75	5.50	0.196	Elkhart Siding (Fig 2I)
22	168.0	E	DP-J	DP 23	PEMA	0.101	1.75	3.50	0.109*	Elkhart Siding (Fig 2J)
23	168.0	E	DP-K	DP 24	PEMA	0.108	6.33	10.96	0.117*	Elkhart Siding (Fig 2J)
24	168.1	E	DP-S	DP 36	PEMA	0.135	3.50	7.00	0.120	Elkhart Siding (Fig 2J)
25	168.1	W	DP-R	DP 34	PEMC	0.411	0.33	0.57	0.326	Elkhart Siding (Fig 2J)
26	168.2	E	DP-N	DP 28	PEM/PFOA	0.741	2.00	2.83	0.014	Elkhart Siding (Fig 2J & 2K)
27	168.4	W	DP-O	DP 31	PEMA	0.336	2.25	4.50	0.355*	Elkhart Siding (Fig 2J & 2K)
28	169.0	W	DP-EE	DP 38	PEMA	6.069	2.00	2.00	4.147	Elkhart Siding (Fig 2K & 2L)
29	170.0	W	DP-FF	DP 39	PEMA	2.356	7.00	7.00	1.529	Elkhart Siding (Fig 2M)

Total Wetland Area = 13.841      Total Impacted Acres = 8.538

<sup>1</sup> PEMA = Palustrine Emergent Temporarily Flooded, PEMC = Palustrine Emergent Seasonally Flooded, PEMF = Palustrine Emergent Semi-permanently Flooded, PSSA = Palustrine Scrub Shrub Temporarily Flooded, PFOA = Palustrine Forested Temporarily Flooded

<sup>2</sup> Acreage within project area, some wetlands continue beyond the project boundary limits

<sup>3</sup> Average of the Coefficient of Conservatism value

<sup>4</sup> FQI = the Mean Coefficient of Conservatism divided by the square root of the number of species

<sup>5</sup> Source for impacted acreage calculations are preliminary design drawings not the wetland delineation report

\* Preliminary design drawings assigned larger impact acreage than the wetland report delineation size; in the case of wetland 15, two wetlands from the delineation report were identified as one impacted area in the design drawings

Recognizing the conceptual engineering detail of the Project, further efforts would be made in future phases of work (including the design phase) to avoid and minimize additional wetland impacts. Avoidance and minimization can be accomplished by narrowing the railroad cross-section with the use of retaining walls, steeper embankments, and bridging critical wetland resources. Avoiding and minimizing impacts to wetland resources may be constrained by other critical resources or local issues. Objectives for mitigation would be established in consultation

with regulatory and resource agencies. The IDOT biological resource review (BRR), dated June 10, 2013, states that after the extent of impacts is determined, a Wetland Impact Evaluation (WIE) form will be completed and submitted to the IDOT Bureau of Design and Environment. If the Project did avoid adverse wetland impacts, the WIE should reflect the determination that adverse wetland impacts would not occur. Refer to *Appendix B* for the BRR.

The wetland sites and WOUS come under jurisdiction of the Rock Island District of the USACE. This includes, but is not limited to the Section 404 permit from the USACE, Section 401 Water Quality Certification from the Illinois Environmental Protection Agency (IEPA), or other permits that may be required. Prior to construction and as part of the wetland permitting process, the UPRR would coordinate with IDOT and USACE to secure the necessary wetland permits and mitigation as required for the Section 404 Permit and in compliance with the Interagency Wetland Policy Act of 1989.

The 2004 ROD states that all practical measures to minimize wetland impacts will be taken. The ROD further states that compensation for wetland impacts will be provided through purchase of credits in an approved wetland mitigation bank. If an approved wetland mitigation bank is not available at the time of permitting, then mitigation will occur by conversion of non-wetland areas into wetlands. Monitoring will be required for wetlands greater than 0.25 acres and will be monitored according to IDOT's Wetland Action Plan and any special conditions stipulated by the USACE. Stipulations in the ROD will be carried forward as part of the minimization and mitigation commitments for the Project.

### **3.2.2 Water Quality and Water Resources**

This subsection provides an overview of surface and groundwater resources and the water quality of those resources within the Project study area. It focuses on resources with the potential to be affected by the Build Alternative.

#### **3.2.2.1 Existing Conditions**

##### Surface Water Resources

The Project study area lies predominately within the Salt Creek watershed, a drainage area of 1,856 square miles, and within the Lake Fork sub-watershed, a drainage area of 277 square miles. Salt Creek drainage area is within the Salt Watershed, HUC 07130009. Salt Creek and Lake Fork do not cross the Elkhart Siding Project area. The southern portion of the Project study area, near the Logan-Sangamon County boundary, falls within the northern edge of the South Fork Sangamon River watershed, a drainage area of 883 square miles.

Salt Creek is one of two primary tributaries of the Sangamon River, which in turn is a tributary of the Illinois River. Salt Creek and the South Fork of the Sangamon River combine to form the (Lower) Sangamon River. This confluence is located on the Menard/Mason County boundary southwest of Mason City, Illinois. The Salt Creek watershed encompasses portions of six counties, including Logan County. Salt Creek is formed by four tributaries: Lake Fork, Sugar

Creek, Kickapoo Creek, and Salt Creek. Lake Fork parallels the UPRR tracks on the east northward from 1200N Rd., however, the railroad does not cross the Lake Fork within the Project study area. The tracks cross Elkhart Slough within the Elkhart Siding in two locations - once south of Broadwell at MP 165 and again midway between Broadwell and Elkhart at MP 166. At MP 167.49 to 167.51 there is a field drainage area considered an unnamed intermittent stream that was dry when observed during the 2012 field survey.

Section 303(d) of the Clean Water Act requires states to identify waters that do not meet applicable water quality standards and submit a list of impaired waters to the USEPA for review and approval. The Project study area has no waterways that are 303(d) listed waters, as set forth in the federal Clean Water Act and the Water Quality Planning and Management regulation in 40 CFR Part 130. Elkhart Slough has not been assessed by the USEPA for Section 303(d) standards.

North of the Project study area, Salt Creek, and Lake Fork have had past water quality problems and impairments (primary contact, Illinois Environmental Protection Agency, 2005). The reaches with impairments do not cross the UPRR mainline. In 2012, Salt Creek at the UPRR (EI-03) fully supports for aquatic life. Wolf Creek (EN-01) south of the Project study area was assessed in 2005 (not impaired) but was not assessed in 2012.

None of the surface water resources in the Project study area are National Wild and Scenic Rivers, as classified under the National Wild and Scenic Rivers Act, or listed on the Nationwide Rivers Inventory. Likewise, they are not Biologically Significant Streams nor do they have an Integrity Rating by the IDNR. Salt Creek, to the north of the Project limits where it crosses the UPRR alignment (MP 158.10 south of Lincoln), is a Biologically Significant Stream (Outstanding Resource Value) and has an Integrity Rating of B.

#### Groundwater Resources

Groundwater quality is dependent in large part on the physical and chemical composition of overlying geologic materials. According to a 1995 Illinois State Water Survey, overall groundwater quality in the Project study area is good.

Groundwater occurs in water-bearing units called aquifers. In Illinois, aquifers are classified as sand-and-gravel aquifers, shallow bedrock aquifers, and deep bedrock aquifers. Within the Project study area, there are no principal shallow sand-and-gravel aquifers. There are no sole source aquifers in, as designated under Section 1424(e) of the Safe Drinking Water Act, within the Project area. No regulated groundwater recharge areas are located within the Project study area. There is no karst topography in Logan County. The Project is not located within an area designated by the USEPA as vital neither for a sensitive ecological system nor in a Class III Special Resources Groundwater area. The Village of Elkhart utilizes two community wells for municipal drinking water. A review of data obtained from the Illinois State Geological Survey (ISGS) Wells and Borings Database shows no well or boring locations within 200 feet of the Project study limits.

### **3.2.2.2 Potential Impacts**

#### Surface Water Resources

The No-Build Alternative would not impact waterways or water quality since there would be no change from existing conditions. The Build Alternative would result in minor impacts to waterways and water quality resulting from culvert replacement and modifications, which include the addition of handrails and the raising of retainer walls. Minor impact would occur from in-stream bank work and construction activity. A small amount of stream substrate may be permanently removed to accommodate the culvert replacement at the intermittent stream location in the study area. Impact minimization is provided through the use and enforcement of the Illinois Erosion and Sediment Control Policy, and National Pollutant Discharge Elimination System permits, that employ Best Management Practices (BMPs) (e.g. silt fences, check dams, and appropriately sized sediment basins). Permanent BMPs installed following construction (e.g. permanent seeding and use of native vegetation) would further reduce impacts.

#### Groundwater Resources

The No-Build Alternative and the Build Alternative would not have any impact on groundwater resources, such as existing wells or borings. The HSR trains will not transport any freight that may be a potential contaminant of groundwater resources with the exception of the on-board fuel and other on-board petroleum based products. The project will not create any new potential “routes” for groundwater pollution or any new potential “sources” of groundwater pollution as defined in the Illinois Environmental Protection Act. Accordingly, the project is not subject to compliance with the minimum setback requirements for community water supply wells or other potable water supply wells. The UPRR has an established Spill Prevention, Control, and Countermeasure Plan to address any potential spill from a locomotive.

### **3.2.3 Threatened and Endangered Species**

The U.S. Endangered Species Act (ESA) of 1973, as amended, provides protection for species that are listed as threatened or endangered under the ESA.

#### **3.2.3.1 Existing Conditions**

Threatened and endangered species potentially occurring in the Project were identified from information supplied by the Illinois Department of Natural Resources (IDNR, 2011) and the USFWS through Section 7 Consultation (USFWS, 2013). Agency records and databases were reviewed to determine if federal or state-listed threatened or endangered species are known to exist in the Project study area.

Two federal threatened or endangered species are found in Logan County. The Indiana bat (*Myotis sodalis*) is an endangered species and the eastern prairie fringed orchid (*Platanthera leucophaea*) is a threatened species. The habitat for the Indiana bat is caves, mines (hibernacula), small stream corridors with well-developed riparian trees/woods, and upland forests (foraging).

Summer habitat includes woodlands, especially riparian areas with mature, dead trees with exfoliated bark. Roosting sites may be used by pregnant and lactating bats, which frequently utilize tree cavities and loose bark on living trees. The habitat for the eastern prairie fringed orchid is moderate to high quality wetlands, sedge meadow, marsh, and mesic to wet prairies. Neither species has habitat found within the Project study area based on the field surveys of the proposed Project site conducted in October and November 2012 (see *Appendix E* for full survey report).

Using the IDNR's Ecological Compliance Assessment Tool (EcoCAT), a review of the Illinois Natural Heritage Database identified the potential for the following Illinois threatened or endangered plant and animal species in the Project study area:

- Plants – ear-leafed foxglove (*Tomanthera auriculata*).
- Animals – Illinois chorus frog (*Pseudacris illinoensis*)

The habitat types found within the Project limits includes developed land, agricultural land, pastureland, grasslands, forested land and open fields. Field surveys conducted in the Fall of 2012 determined that no suitable potential habitats were found for the federal or state listed threatened or endangered species. Suitable habitat is an area that is capable of providing individuals or populations of a species with food, shelter, protection (from human and animal predators), breeding sites, and sites for nesting and rearing young. To be considered suitable habitat, it may have to contain certain types of geological features, particular types of water bodies, particular types of trees or plants or other species of wildlife. *Table 4* summarizes federal and state endangered and threatened species in Logan County, their habitats, and their occurrence within the Project limits.

**Table 4 – Federal and State Threatened and Endangered Species**

Name	Species	Designation	Habitat	Presence/Available Habitat in Study Area <sup>1</sup>
Indiana bat	<i>Myotis sodalis</i>	Federal Endangered Animal Species	Caves, mines, small stream corridors, riparian woods/trees, upland forests	Not found within project limits for Elkhart Siding
Illinois chorus frog	<i>Pseudacris illinoensis</i>	State Endangered Animal Species	Habitat specialist requiring fine, sandy soils for aestivation and seasonally flooded wetlands or fishless ponds for reproduction	Not found in surveyed areas
eastern prairie fringed orchid	<i>Platanthera leucophaea</i>	Federal Threatened Plant Species	Mesic prairie, wetlands, sedge meadows, edges of marshes	Not found in surveyed areas
ear-leafed foxglove	<i>Tomanthera auriculata</i>	State Threatened Plant Species	Dry to moist prairies in open uplands and woods	Not found in surveyed area, last recorded in Illinois in 1957

Sources: Illinois Department of Natural Resources (IDNR) and Illinois Nature Preserves Commission (INPC).

<sup>1</sup> Surveyed areas were within the Original Project study area

A review of the IDNR's corridor wide natural resource assessment from September 2011, for the entire HSR corridor from Chicago to St. Louis indicated that there were no state listed threatened or endangered species occurring within the Project study area for this EA. The

Biological Resource Review (BRR), dated June 10, 2013, also indicates that there were no state listed threatened or endangered species within the Project study area.

#### Remnant Railroad Prairie Species

The 2003 Illinois Natural History Survey (INHS) report titled Inventory of Roadside Prairies, Illinois Department of Transportation, District 6, identified portions of remnant prairies that fall within the Project study limits. The INHS report identified a 6.7 mile, 98 foot wide prairie remnant north of Elkhart and 4.9 mile, 112 foot wide prairie remnant north of Williamsville. Both prairie remnants are highly degraded, low quality prairies with exotic species dominating portions of the remnants. None of the prairie remnants are part of a preserve or Illinois Natural Area according to the Illinois Department of Natural Resources Natural Resource Assessment for the High Speed Rail Corridor (September 2012). The entire prairie remnant north of Elkhart, from MP 162.50 to 166.50, falls within the limits of the Project. The remnants are not part of a nature preserve or Illinois Natural Area. Sections of the prairie remnant north of Williamsville, from MP 171 to 169 also fall within the limits of the Project. A Fall 2012 field survey report identified a third prairie remnant at 162.02 to 162.09, and has a grade D quality rating, as referenced in the field survey report found in *Appendix E*. Grade D indicates that occasional prairie plants grow on soil that is either disturbed or undisturbed.

The natural quality grading system of Illinois prairies dates back to the Illinois Natural Areas Inventory and was developed by White (1978). The grading system is a measure of the degree of disturbance to soils and vegetation. There are five classifications, A through E. They are defined as follows in White, 1978:

- Grade A: Natural Prairie – Species composition is natural or nearly so, with a full diversity of forbs and without an overabundance of weedy species. Soil is undisturbed by earthmoving; or it may have been lightly disturbed but the vegetation appears natural.
- Grade B: Disturbed Prairie – Species composition is altered from the original natural condition. Some characteristic prairie plants are absent; others are overly abundant. There may be patches of native weeds and many exotic species. Soil is typically light graded or otherwise disturbed.
- Grade C: Degraded Prairie – Species composition is unnatural. There may be only scattered clumps and irregular, discontinuous patches of grass, with a dominance of weedy vegetation.
- Grade D: Occasional prairie plants grow on soil that is either disturbed or undisturbed.
- Grade E: Prairie plants are essentially absent because of disturbance.

Grade A and B are considered high quality prairie. Grade C is degraded and Grades D and E are low/no quality. Subsequent to the INAI, refinement of the grading system have added a + or – modifier to the grade, similar to the method used for designation of the wetland indicator status for plant species. A discussion of the methodology and application of the grading system



for the HSR is on p. 2-94 of the DEIS, with more detail in the Native Prairie Technical Report (March 1999, Federal Highway Administration and Illinois Department of Transportation) – particularly page 2. As stated in the FEIS, the criterion used in determining whether prairie remnants with impact would have design and construction actions to maximize avoidance, impact minimization measures and compensatory mitigation applied was a grade of C+ or higher.

The BRR states that the limits of the Elkhart siding improvement were surveyed for the presence of high quality prairie, per the commitment in the 2004 ROD for the proposed Chicago-St. Louis HSR project. The BRR states that survey results indicate that no high quality prairies were located within the limits of the proposed improvements.

### **3.2.3.2 Potential Impacts**

The No-Build Alternative would not impact threatened or endangered species since there would be no change from existing conditions.

The location of the Elkhart Siding did not contain the habitat or activity evidence of federal or state listed threatened or endangered species, therefore the Build Alternative would not impact federal or state threatened or endangered animal or plant species. The BRR states that ten areas of moderate to low quality (grade C to D) prairie were delineated for a section of the overall HSR project referred to as Tier 3, which includes the Elkhart Siding. The Build Alternative would impact three of those remnant prairies with an impact area of 7.23 acres. .

The IDOT BRR, dated June 10, 2013, states that an undetermined number of trees would be removed to construct the proposed improvements. The locations of tree removals are unknown at this time. In order to minimize the potential for impacts to the Indiana bat UPRR would commit to clearing trees while the Indiana bat is hibernating, September 30 through April 1. With implementation of this conservation measure, the proposed improvements would not impact the Indiana bat. The BRR also states that although there are wetlands and prairie remnants within the limits of the proposed improvement, those habitats are degraded and are not suitable for the eastern prairie fringed orchid. The BRR determined that the proposed project would have no effect to the eastern prairie fringed orchid. FRA forwarded the BRR to the USFWS for a 30 day review and comment period and no comments were received. See *Appendix B* Coordination and Consultation for the BRR.

### **Mitigation**

All disturbed areas not occupied by Project facilities would be immediately revegetated and mulched to stabilize disturbed soils, minimize erosion, and enhance the productivity and aesthetics.

Pursuant to the 2004 ROD, prairie mitigation will occur for sites with a quality of C+ or higher. The prairies and prairie remnants within the Project area do not meet that minimum

classification. Per the BRR, the Project will minimize temporary impacts to prairies during construction, staging and access to the Project site according to the prescription under the heading labeled Prairie in the BRR. Where avoidance is not possible, UPRR would minimize the area of disturbance (direct and indirect, temporary and permanent) through the use of BMPs, such as exclusionary fencing. Per the 2013 BRR, UPRR would notify the IDOT Bureau of Design and Environment as soon as unavoidable impacts to prairies are known.

Per the BRR, there would be no tree clearing April 1 through September 30, in order to conserve the Indiana bat.

### **3.2.4 Special Lands**

A review of the Illinois Natural Heritage Database was conducted to determine if any Illinois Natural Areas Inventory (INAI) sites, Illinois Nature Preserves, or Illinois Nature Preserves Commission (INPC) protected lands are located within the Project study area.

Elkhart Hill (0178) and Salt Creek (1432) are Illinois National Area Inventory (INAI) Sites in this general area but are located outside of the Project study area. Elkhart Hill I Nature Preserve, North Elkhart Hill Grove Land and Water Reserve and Elkhart Hill Grove Land and Water Reserve are located approximately 0.7 miles east of the UPRR and are outside of the Project boundary limits.

The No-Build Alternative would not impact special lands since there would be no change from existing conditions. The Build Alternative would not impact special lands because they are outside of the Project study area.

### **3.2.5 Section 4(f) Properties**

Section 4(f) properties include publicly owned public parks, recreation areas, and wildlife or waterfowl refuges, or any publicly or privately owned historic site listed or eligible for listing on the National Register of Historic Places (NRHP).

#### **3.2.5.1 Existing Conditions**

An inventory of Section 4(f) properties within 1,000 feet of the Project study corridor was conducted. The Village of Broadwell has no municipal parks. The Village of Elkhart has one park, Elkhart Community Park, located approximately 1,100 feet from the rail line. There are no privately or publicly owned historic sites listed or eligible for listing on the NRHP located in the Project study area (refer to Section 3.3.9 and *Appendix B*).

In an IDOT letter dated February 13, 2013 with concurrence from the State Historic Preservation Office (SHPO) dated February 19, 2013, IDOT stated that no Historic Properties subject to protection under Section 106 of the National Historic Preservation Act of 1966, as amended, will be affected by this proposed Project. Refer to *Appendix B* for SHPO coordination.

#### **3.2.5.2 Potential Impacts**

Neither the No-Build Alternative nor the Build Alternative would impact any parks or historic sites; therefore the Project would not use lands subject to the requirements of Section 4(f) of the Department of Transportation Act of 1966.

### **3.2.6 Aesthetic Environment and Scenic Resources**

This section identifies any significant changes likely to occur in the natural landscape and in the developed environment. The section also includes the consideration given to design quality, art, and architecture in project planning and development.

#### **3.2.6.1 Existing Conditions**

The proposed Elkhart Siding is located parallel to the existing mainline track and in an area of developed land with some agricultural land use and grassland/shrubland habitat. There are no forested areas within the Project study area, although there are areas of trees that are described in Section 3.1.6. There are no historic properties within the viewshed of the Project study area.

#### **3.2.6.2 Potential Impacts**

The No-Build Alternative would not have any impacts on aesthetic or scenic resources, as the conditions would not change from the existing views. Under the Build Alternative, there would be some minor impacts to visual resources as there would be tree removals. Also, temporary easements would need to be obtained by UPRR for construction access and to stage materials; however, these easements would not require the relocation of residences, or permanently impact scenic resources. The overall visual environmental would remain largely the same.

## **3.3 Human Environment**

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The purpose of this section is to describe the characteristics of the Human Environment within the area that is to be served or affected by the Project. Included in this section is a discussion of the anticipated transportation, socioeconomic, environmental justice, barriers to the elderly and disabled, public health and safety, hazardous materials, and cultural resource effects of the Build Alternative. Where appropriate, mitigation measures are identified.

### **3.3.1 Transportation**

This section summarizes the transportation impacts expected under the No-Build Alternative and the Build Alternative.

### **3.3.1.1 Existing Conditions**

Under the current schedules, there are five daily round-trip Amtrak passenger trains. There are four (4) at-grade rail/roadway crossings within the Project study area: Broadwell (1), Elkhart (1), and rural Logan County (2).

### **3.3.1.2 Potential Impacts**

Under the No-Build Alternative there would be no change in passenger train schedules or at-grade crossings from existing conditions. The No-Build Alternative would not have a siding and therefore would not allow freight trains to move into a siding while passenger trains passed through the Elkhart area. Without a siding, HSR service north and south of Elkhart would be experience delays.

There are no proposed changes in the number of Amtrak trains in the Project study area. There are no new stations proposed in the Project study area. Based on the improvements in the 2004 ROD, there would be an increase in ridership over time as a direct result of infrastructure improvements, including this siding Project, that would increase HSR passenger rail viability as presented previously in Section 1.0 Purpose and Need for Action.

Projected freight operations will increase with construction of new intermodal facilities in Joliet and Alton. The cities of Joliet and Alton are not in the Project study area included for this EA. However, they have an influence on the volume of freight traffic experienced in the Project study area. Rail operations in Joliet and Alton (?) would be affected without siding tracks in this portion of the route to allow through movement, affecting freight and passenger rail.

The Build Alternative would result in temporary impacts to vehicular operations during construction of the additional siding track, reconstruction of the mainline track and at-grade roadway crossovers, and the installation of the new four-quadrant gates with vehicle detection equipment at roadway crossings. In some cases, temporary diversion of traffic to adjacent crossings could be required. Minor and temporary impacts to vehicular traffic could affect emergency services, schools, businesses, and other local activities requiring vehicular access, but only on a short term basis during Project construction.

The Build Alternative would result in improvements to on-time rail performance on the existing route and provide for shorter trip times; thus, the Project would have a beneficial effect on other railway operations. Temporary delays during construction would be experienced, affecting operating speeds in construction zones and affecting schedules due to the necessity of temporary track shutdowns.

The Build Alternative has no additional permanent impacts to vehicular traffic or parking and there are no changes to access. There are no additional grade crossing closures subject to this re-evaluation. The identification and process by which grade crossing closures will occur have been previously cleared in the Grade Crossing Closure and Enhancement CE completed in

2011. There are four at-grade crossings (identified in Section 2.2) within the limits of this project that will require temporary closings.

The Project is expected to have a positive impact on bicycle and pedestrian transportation through design improvements at the at-grade crossings that would accommodate crossing pedestrians and bicycles. Design elements include the dimensions, flatness, height, surface, and flangeway design (depth and width) of the crossing and also the crossing angle. Fencing installed in the municipalities of Broadwell and Elkhart would channel pedestrians to access locations at cross roads where crossings incorporate design features specifically considering pedestrian movement.

### **3.3.2 Land Use**

#### **3.3.2.1 Existing Conditions**

Logan County is designated a non-metropolitan area and is primarily rural. IDOT coordinates transportation planning activities with local agencies in Logan County. The Illinois State Transportation Plan was completed in December 2012.

The Logan County Planning Element (December 2009), prepared by the Logan County Planning Subcommittee, is the county's Hazardous Mitigation Plan. The mitigation plan addresses long-term risk reduction/elimination to human life and property from hazards in adherence to FEMA goals and objectives pursuant to requirements of the Federal Disaster Mitigation Act of 2000 (DMA 2000). There is no zoning or comprehensive land use plan specifically for Broadwell and Elkhart. The Logan County Comprehensive Plan (December 2006), prepared by the Logan County Regional Planning Commission, with technical assistance from the McLean County Regional Planning Commission, is a guide, with emphasis on land use planning and meeting the environmental needs of the community. Logan County does not have a land use plan with zoning ordinances.

The City of Lincoln is the largest municipality in Logan County. In addition to residential areas, the city is occupied by government facilities, educational institutions, and commercial and industrial land uses.

More than 95 percent of the County's 618 square miles are in active agricultural use, utilizing the area's fertile soil and open topography. In the unincorporated agricultural areas, there are isolated agricultural and industrial facilities adjacent to the railroad. These facilities are generally located near a rail crossing providing access to Old U.S. Route 66 and Interstate 55. Land uses in Logan County are predominantly agriculture, with scattered wooded riparian greenways (Logan County Regional Planning Commission, 2006).

#### **3.3.2.2 Potential Impacts**

The No-Build Alternative would not impact land use as there would be no change in the existing land use designations.

The Build Alternative would impact land use with the acquisition of approximately 29.15 acres of additional ROW. The land use categories and percentages for the proposed additional ROW are as follows:

- Grassland: 35% (10.2 acres)
- Hedgerow: 30% (8.7 acres)
- Shrubland: 27% (7.9 acres)
- Developed Land (Urban): 8% (2.3 acres)

### Displacements

No displacements are anticipated as a result from the Build Alternative.

Temporary easements or purchase of ROW needed for construction access and to stage materials by the UPRR would not require the relocation of any structure. ROW purchases would be conducted in compliance with the Uniform Relocation Assistance and Real Property Acquisition Act of 1970 (Uniform Relocation Act) (42 USC Sections § 4601 et seq.), as amended, and U.S. DOT implementing regulations, 49 CFR part 24. The Uniform Relocation Act applies to all federal or federally assisted activities that involve the acquisition of real property or the displacement of residences or businesses. IDOT would implement the provisions of the State of Illinois Relocation Assistance Plan in accordance with the Uniform Relocation Act.

### Community Services and Facilities

Schools, medical centers, and fire and police stations serve the daily needs of residents near the two municipal areas of Broadwell and Elkhart in the Project study area. There are no municipal parks that would be affected by the Project. There would be no direct impact to any of these community services or facilities.

Streets in each of these incorporated areas in the Project study area provide access to and from educational and medical facilities and play a critical role in providing these services, and in serving the health, safety and general welfare of those who use them. Because there would be no alteration to the existing street grid, except for short-term temporary closures during construction, impacts to these services and facilities would be minimal. In some cases, temporary diversion of traffic to adjacent crossings could be required, causing minor affects to emergency services, schools, businesses, and other local activities requiring vehicular access.

## **3.3.3 Demographics**

### **3.3.3.1 Existing Conditions**

Logan County is primarily agricultural, with a 2010 population density of 49.0 persons per square mile. Lincoln, the largest city, has over half of the county population. From 2000 to 2010, the Logan County population declined by almost three percent, from 31,183 to 30,305. The Village of Elkhart declined by 8.6 percent, far below the Illinois statewide increase of 3.3 percent, as shown in *Table 5*.



**Table 5 – Population and Households 2000 and 2010 Census**

Community	Population			Households		
	2000 Census	2010 Census	Percent Change (2000-2010)	2000 Census	2010 Census	Percent Change (2000-2010)
State of Illinois	12,419,293	12,830,632	3.3	4,591,779	4,836,972	5.3
<b>Logan County</b>	31,183	30,305	-2.8	10,981	11,070	0.8
Village of Elkhart	443	405	-8.6	183	198	8.2
Village of Broadwell	169	145	-14.2	70	78	11.4

Source: U.S. Bureau of the Census, Census 2000 and Census 2010; Lincoln and Logan County Economic Partnership, 2011; Community Profiles

The number of households in Illinois increased 5.3 percent during the same ten years. The percentage change in Logan County households was 0.8 percent; however, the municipalities in the Project study area showed marked increases: Village of Elkhart (8.2%) and Village of Broadwell (11.4%).

#### Racial and Ethnic Composition

Table 6 shows that minority populations in Logan County are not concentrated in the villages within the Project study area. Approximately 1.6 percent of the combined population of Elkhart and Broadwell are minorities.

**Table 6 – Population by Race and Ethnicity 2010**

Community	White	Black/ African American	Am. Indian and Alaska Native	Asian	Pacific Islander	Other	Two or More Races	Hispanic or Latino (of any race)
State of Illinois	9,177,877	1,866,414	43,963	586,934	4,050	861,412	289,982	2,027,578
<b>Logan County</b>	27,008	2,285	60	184	5	371	392	893
Village of Elkhart	397	0	0	2	2	1	3	13
Village of Broadwell	144	1	0	0	0	0	0	1

Source: U.S. Bureau of the Census, Census 2010 and community profile websites for each city and township.

#### **3.3.3.2 Potential Impacts**

The No-Build Alternative would not impact population density for the Project area as it is assumed the current demographic numbers and composition would remain unchanged. Under the Build Alternative, no impacts to demographics would occur as there are no displacements of homes or businesses as a result of the Project. Therefore there are no disproportionate impacts to minority groups either as a result of the Project.

### 3.3.4 Economics and Employment

#### 3.3.4.1 Existing Conditions

Though Logan County is primarily agricultural, farming is not the largest employer in the county. The top three employers in Logan County are automotive and filling stations, drinking and eating places, and general merchandise. *Table 7* lists the employment in Logan County.

**Table 7 – Employment by Major Industry, Logan County**

Industry	Percent in County
Automotive and Filling Stations	34.9
Drinking and Eating Places	15.2
General Merchandise	14.0
Agriculture and All Others	9.7
Prescription Drugs and Miscellaneous	8.8
Food	6.4
Lumber, Building and Hardware	4.9
Furniture and H.H. & Radio	2.8
Apparel	1.7
Manufacturing	1.3

Source: Illinois Department of Revenue, 2006; Logan County Economic Development Master Plan, 2009.

*Table 8* shows median household incomes for areas within the Project study area. The percent change in median income is lower in Logan County and the Villages of Elkhart and Broadwell than the percent change for the State of Illinois. For municipalities in the Project study area, median household income is lower than the statewide and Logan County median household income for 2010.

**Table 8 – Median Household Income, Census 2000 and 2010 (Estimated)**

Community	Median Household Income		
	1999 (2000 Census)	2010 Estimated	Percent Change (2000-2010)
State of Illinois	\$46,590	\$60,254	22.6
Logan County	\$39,389	\$48,999	19.6
Village of Elkhart	\$41,838	\$48,008	12.9
Village of Broadwell	\$40,000	\$47,816	16.3

Source: U.S. Bureau of the Census, Census 2000 and 2010 Income Estimates; Lincoln and Logan County Economic Partnership, 2011; Community Profiles

The 2010 Census includes percentages of households below the poverty threshold depending on the family size and the number of children under age 18 at state and the municipal track level. The 2010 Census includes 48 possible poverty thresholds that could be assigned to each person or family. For a household with a family of four including two children the poverty threshold level is \$22,113 for the household income. For a household with a family of two, with no children and the adults are over the age of 65 the poverty threshold level is \$13,180 for the household income. The following percentages for the population within the Project study area that are below poverty threshold levels are:

- State of Illinois: 13.1%
- Logan County: 11.1%
- Elkhart: 8.2%
- Broadwell: 2.6%

As the percentages indicate, Elkhart and Broadwell have lower than the state average of households below poverty threshold levels.

#### **3.3.4.2 Potential Impacts**

The No-Build Alternative would not impact employers or industries as there would be no change to the existing conditions. The Build Alternative would have no direct impact on industry type or employers in the Project area, as there will be no station proposed as part of the Elkhart Siding and no businesses would be displaced by the Build Alternative.

However, the Project promotes both the short and long-term creation and preservation of jobs while promoting new opportunities during its construction. Millions of dollars would be invested in construction of the 110 mph mainline track, construction of a new siding track, signal improvements, reconfiguration and realignment of intersecting at-grade roadway crossings in the Project. New and expanded business opportunities would be indirectly created by enhancing the capacity and increasing the fluidity of freight rail operations on the UPRR.

### **3.3.5 Environmental Justice and Title VI**

Title VI of the Civil Rights Act of 1964 addresses discrimination issues associated with federally funded projects. No groups or individuals have been or will be excluded from participation in public involvement activities, denied the benefit of the project, or subjected to discrimination in any way on the basis of race, color, age, sex, national origin, disability, or religion.

Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations (1994), directs federal agencies to "promote nondiscrimination in federal programs substantially affecting human health and the environment, and provide minority and low-income communities access to public information on, and an opportunity for public participation in matters relating to human health or the environment." The Council on Environmental Quality (CEQ) responded to this order by issuing guidance for agencies on how to address environmental justice under NEPA. The Department of Transportation (DOT) issued an update to Departmental Order 5610.2(a) (Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) (originally published April 15, 1997) on May 2, 2012. The Order updates and clarifies environmental justice procedures for the Department in response to the Memorandum of Understanding on Environmental Justice signed by heads of Federal agencies on August 4, 2011, DOT's revised environmental justice strategy issued on March 2, 2012, and Executive Order 12898.

The No-Build Alternative would not have disproportionately high or adverse impacts on minority or low impact populations.

As first mentioned in Section 3.3.3, approximately 1.6 percent of the combined population of Elkhart and Broadwell are minority populations. The two municipalities have lower than state average percentage, at 8.2 and 2.6 percent, of households at or below the poverty level. Furthermore, the Build Alternative would not result in any property acquisitions of residences or businesses or relocations; it therefore would not disproportionately affect minority or low-income residents or populations in the Project study area. The 2003 FEIS listed at-grade crossing closures as the activity associated with the Original Project to have the greatest potential to impact minority or low-income populations. There are no permanent closures proposed for the Build Alternative and therefore would have no disproportionate or adverse impact on minority or low-income populations. Construction related closures of at-grade crossings would occur but are considered temporary and existing vehicular and pedestrian access would be restored after construction has been completed.

### **3.3.6 Barriers and Accessibility**

The No-Build Alternative would perpetuate any existing barriers to mobility for elderly and disabled persons. The Build Alternative would have no impact regarding station- and platform-oriented issues related to Americans with Disabilities Act (ADA) accessibility or access for elderly because no stations are proposed. Design features for pedestrians at at-grade crossing improvements in Broadwell and Elkhart, where pedestrians and disabled persons may cross the tracks, would have a positive effect in removing or preventing barriers to their mobility. The pedestrian crossing escape gates are four feet in width (exceeding the recommended 32- to 36-inch width for wheelchair accommodation), thereby assuring adequate room for passage of a wheelchair through the gate.

### **3.3.7 Public Health and Safety**

The No-Build Alternative would not permanently affect public health and safety. Fire, police and medical response time would not be affected.

The Build Alternative would also not impact public health and safety. There would be no permanent change in the existing traffic flow patterns due to the proposed improvements. Minor temporary impacts, due to construction of at-grade crossings, have been presented previously and have potential to impact emergency response times from delays at crossings and temporary closures. All measures would be taken during the construction phase to coordinate with emergency service providers in order to mitigate any potential impacts due to construction activity conflicts.

Two aspects of the Project would have a positive safety impact: the installation of four-quadrant crossing gates (one at-grade crossings in Broadwell, one at-grade crossing in Elkhart, and two at-grade crossings in rural sections of Logan County) would reduce vehicle/rail incidents; and the installation of fencing along the tracks in the municipalities of Broadwell and Elkhart would have a positive safety impact on pedestrians and bicyclists. Fencing at the edge of the roadway crossings without dedicated sidewalks would be extended to the crossing signal preventing pedestrians and bicyclists from circumventing the crossing arm when it is down.

### 3.3.8 Hazardous Materials

Potential hazardous materials affecting the Project study area were evaluated in a Draft Preliminary Environmental Site Assessment (PESA) prepared on November 28, 2012, which included an electronic search of local, state and federal environmental databases, as performed by the Illinois State Geological Survey (ISGS). Results of the database search are incorporated into the findings of the PESA found in *Appendix A*. The databases and search distances were performed in accordance with the EPA's All Appropriate Inquiries (AAI) regulations and American Society for Testing and Materials (ASTM) E 1527-05 Standard Practice for Environmental Site Assessments. The PESA report conforms to the methods described in the Illinois Department of Transportation (IDOT) Memorandum #04-09, dated July 22, 2004 entitled "*Special Waste Procedures for Local Highway Improvements*." In addition, the Illinois State Geological Survey (ISGS) Open File Series Publication No 2012-1 entitled "*A Manual for Conducting Preliminary Environmental Site Assessments for Illinois Department of Transportation Highway Projects*" is referenced in preparation of the PESA.

#### 3.3.8.1 Existing Conditions

The PESA identified fifteen locations with recognized environmental conditions (RECs) and twelve other locations with *de minimis* conditions. The evaluation process included onsite observations, historical records research, interviews and review of the regulatory database findings as part of its evaluation process. Some of the listed RECs are within the UPRR ROW. Generally, the areas of concern identified in the PESA fall into the following categories: (1) The identification or possibility of underground storage tanks (USTs) or aboveground storage tanks (ASTs), and/or presence of 55-gallon drums; (2) Close proximity of electrical transformers and power equipment to the UPRR rail line; (3) Potentially impacted soils and/or presence of monitoring wells; (4) Potential former, as well as, current use of environmentally sensitive chemicals; (5) Close proximity to natural gas pipelines, and; (6) Possible presence of asbestos-containing (ACM) and lead-based paint (LBP) in building materials. The PESA noted that historical coal mining activities have taken place in the Project study area. Coal maps show that the nearest documented mine shafts were approximately 1.5 miles from the Project limits. However, the PESA states that local residents in Elkhart state a new mine shaft was opened in July 2012, located approximately 0.4 miles from the rail line. The location of this new mine shaft was not documented in ISGS Mine Notes or confirmed with coal mine personnel.

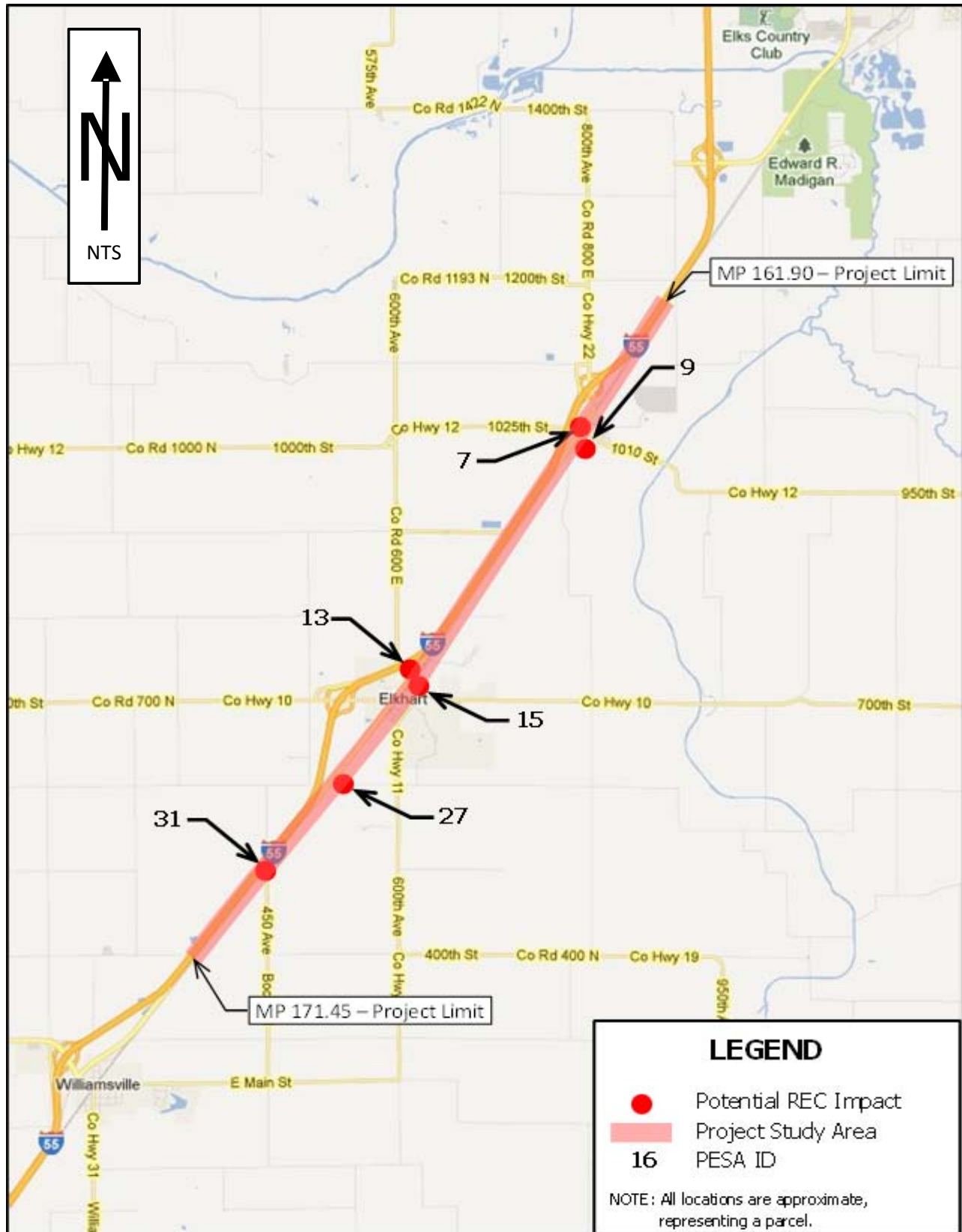
Nine of the identified RECs have been determined as potentially impacting the proposed ROW or construction easement of planned improvements. A summary of these RECs are found in *Table 9*. Descriptions of the REC sites listed below correspond to the PESA ID REC sites presented in *Figure 20*.

- PESA ID No. 2694-7 – UPRR Rail Line: Due to historical use of metals and batteries in a railroad signal box.
- PESA ID No. 2694-9 – Elkhart Grain Company: Due to a possible former AST with contents unknown.

- PESA ID No. 2694-11 – Elkhart Grain Company: Due to presence of ASTs and a drum of unknown contents; and possible former USTs.
- PESA ID No. 2694-13 – Vacant Land: Due to the presence of a monitoring well; and impacted soil.
- PESA ID No. 2694-14 – Vacant Building: Due to former USTs with a documented release; impacted soil and groundwater; presence of ASTs and drums with unknown contents; monitoring wells; and former monitoring wells.
- PESA ID No. 2694-15 – UPRR Rail Line: Due to historical use of metals and batteries in a railroad signal box.
- PESA ID No. 2694-27 – UPRR Rail Line: Due to historical use of metals and batteries in a railroad signal box.
- PESA ID No. 2694-29 – Elkhart Fertilizer Service, Inc.: Due to dumping; presence of ASTs with unknown contents; and evidence of chemical use.
- PESA ID No. 2694-31 – UPRR Rail Line: Due to historical use of metals and batteries in a railroad signal box.



Figure 20 – REC Map



Source: Background graphic – FWS Wetlands Mapper  
PESA – Elkhart Siding – MP 161.0 to 171.0, Illinois State Geological Society, November 2012

### 3.3.8.2 Potential Impacts

Table 9 indicates each PESA identified in the Project study area and the potential impacts resulting from construction of the Build Alternative.

**Table 9 – Potential REC Impacts**

No.	Mile Post (Approx.)	Side of RR	PESA <sup>1</sup> ID 2694-X	Acres Potentially Impacted (Approx.)	Potential Impact Due To	PESA <sup>1</sup> Attachment 2 Figure Reference
1	163.41 to 161.46	N/A	7	0.61	UPRR Existing ROW	Page 2
2	163.44 to 163.55	E	9	1.73	Construction Easement	Page 2
3	166.93 to 167.18	W	11	0	N/A	Page 3
4	167.18 to 167.21	W	13	0.37	Construction Easement	Page 3
5	167.22 to 167.25	W	14	0	N/A	Page 3
6	167.18 to 167.25	N/A	15	0.85	UPRR Existing ROW	Page 3
7	168.55 to 168.62	N/A	27	0.85	UPRR Existing ROW	Page 4
8	168.57 to 168.80	E	29	0	N/A	Page 4
9	169.62 to 167.70	N/A	31	0.97	UPRR Existing ROW	Page 5
<b>TOTAL</b>				<b>5.38</b>		

<sup>1</sup>ISGS PESA #2694 (Preliminary Environmental Site Assessment) Elkhart Siding – MP 161.0 to 171.0, Illinois State Geological Society, November 2012

Potential hazardous materials affecting the Project study area would be evaluated in a second PESA, which would include an (already conducted) electronic search of local, state, and federal environmental databases in the vicinity of the Project study area – performed by FirstSearch Technology Corporation (FirstSearch). The database search report is found in *Appendix A*. Search distances in the database report are performed in accordance with EPA's All Appropriate Inquiries (AAI) regulations and American Society for Testing and Materials (ASTM) E 1527-05 Standard Practice for Environmental Site Assessments. The PESA, when available, will conform to the methods described in the Illinois Department of Transportation (IDOT) in BDE #66-10A, the "Manual for Conducting Preliminary Environmental Site Assessments for Illinois Department of Transportation Highway Project", and Bureau of Local Roads Special Waste Procedures. In addition, the PESA will conform to the Illinois State Geological Survey (ISGS) Open File Series Publication No. 1996-5 entitled "A Manual for Conducting Preliminary Environmental Site Assessments for Illinois Department of Transportation Highway Projects." Evaluation of potential environmental concerns contained in the PESA will include observations, historical records research, and a review of database information considered critical in the Project study area.

*De minimis* conditions, as used by ASTM, generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate government agencies. Thus, conditions determined to be *de minimis* are not RECs. The ISGS PESA identified twelve (12) locations where *de minimis* conditions exist, placing them into the following categories: (1) The possibility of hazardous oil (i.e., PCBs) used in the operation of electrical transformers that have not been otherwise documented by the power utility provider; (2) The potential long-term usage of agricultural chemicals, such as fertilizers, pesticides and herbicides; and (3) The potential presence of asbestos-containing materials (ACM) and lead-based paint (LBP) in building materials.

Four properties were identified in the database report within the Project study area, none of which appear to be an adverse impact under the Build Alternative or No-Build Alternative. A summary of findings in the PESA, as presented in the table above, notes that 6 of the 9 RECs are contained within approximately 5.38 acres of the proposed right of way or proposed construction easements. An assessment of these potential impacts still needs to be determined, which may require performing a Preliminary Site Investigation (PSI). Therefore, under the Build Alternative, the potential exists for impacts from the 6 REC sites listed in the PESA.

### Mitigation

Regarding hazardous materials and the potential REC site impacts, the following commitments will occur for the Build Alternative:

- Accidental spills of hazardous materials and wastes during construction or operation of the transportation system require special response measures. Occurrences would be handled in accordance with local government response procedures. Refueling, storage of fuels, or maintenance of construction equipment would not be allowed within 100 feet of wetlands or water bodies to avoid accidental spills impacting these resources.
- Further environmental studies would be conducted if the proposed improvements require excavation, including subsurface utility relocation, on a property with an easement. A Preliminary Site Investigation (PSI) would be conducted for state and state jurisdiction roadway ROW prior to acquisition of any contaminated parcel, and/or required temporary or permanent easements. The PSI would be conducted if the proposed improvements require excavation on or adjacent to a property identified with a REC or requires excavation, including subsurface utility relocation, on a property with an easement.
- In some cases, the portion of the Project that involves an REC can be risk managed and not require additional assessment. If risk managing is not possible, further environmental study is required, specifically a PSI, to determine the nature and extent of possible contamination for state or state jurisdiction roadway ROW.
- Special waste issues encountered during construction will be managed in accordance with UPRR standard specifications and special provisions or the "IDOT Standard Specifications

for Road and Bridge Construction and Supplemental Specifications and Recurring Special Provisions.”

- In the case of emergency involving hazardous materials, UPRR would enact a hazardous materials emergency response plan.

### **3.3.9 Cultural Resources**

This subsection provides an evaluation of historic, architectural and archeological resources within UPRR ROW. Section 106 of the National Historic Preservation Act (NHPA) of 1966 (as amended) requires federal agencies to consider the impacts of their project undertakings on historic architectural and archeological resources that are either listed in or have been determined eligible for listing in the National Register of Historic Places (NRHP) (36 CFR 800). If projects are federally permitted, licensed, funded, or partially funded, the project must comply with Section 106. Under Section 106, federal agencies are required to provide the public with information about a proposed project and its effect on historic properties and to seek public comment and input, except where confidentiality is considered necessary (as specified in 36 CFR Parts 800.2 and 800.3).

#### **3.3.9.1 Existing Conditions**

The Historic Archaeological/Architectural Resources Geographic Information System (HAARGIS) was created by the IHPA in 2002 from the Illinois Historic Structures Survey (1971-75) and the Illinois Historic Landmarks Survey (Swallow 1991). Nine (9) known historic properties within the City of Elkhart identified in HAARGIS, none of which are within the Project boundary limits. No properties were listed in Broadwell. There are no historic properties listed on the NRHP for Broadwell or Elkhart. An archaeological survey was completed by the Illinois State Archaeological Survey, and no archaeological sites were identified within the project area. A photo log of buildings and bridges within the project area that are older than 50 years was compiled and reviewed by IDOT’s cultural resources staff. No structures were identified that warrant National Register consideration.

#### **3.3.9.2 Potential Impacts**

Under the No-Build Alternative, there would be no impacts to historic resources as no construction work would occur.

In an IDOT letter dated February 13, 2013 with concurrence from the State Historic Preservation Office (SHPO) dated February 19, 2013, IDOT stated that no Historic Properties subject to protection under Section 106 of the National Historic Preservation Act of 1966, as amended, would be affected by this Project. Therefore, the Build Alternative would not adversely affect historic properties. See *Appendix B* for the SHPO coordination.

### 3.4 Construction Impacts

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Impacts associated with construction of the improvements would be local and temporary noise, vibration, dust, and traffic disruptions. Noise and vibration impacts were discussed in detail in Section 3.1.4. There is also the potential for impacts to intermittent streams and wetlands.

These temporary impacts would occur from operation of equipment for the construction of an additional siding track, reconstruction of the existing mainline track, installation of new crossing gates and signal devices and equipment, and reconfiguration and realignment of at-grade roadway crossings. Normal traffic may be flagged at various times to allow entry and exit of construction equipment to the Project sites using adjacent or nearby rail/highway grade crossings. Such occurrences are expected to be perceived by motorists as an inconvenience. However, these impacts would be temporary, and existing vehicular travel would be restored after construction has been completed.

The Project may require periodic reduction in the operating speed of trains that pass through construction zones. Also, there may be a need to adjust the schedule of rail operations if activities require temporary shutdown of selected track sections. Such schedule and/or operations adjustments would be necessary when there is a potential safety risk due to the proximity of moving trains and construction activities that are incompatible with ongoing train traffic. Such delays or disruptions may be similar to normal maintenance activities under existing conditions.

Construction could cause temporary impacts to wetlands, streams, and surrounding stream banks as the track improvements are made (replacement of rail, crossties and track ballast, removal and replacement of trackside equipment). In the section where the siding track is being constructed, culverts or bridge structures will be extended or replaced. These procedures are primarily restricted to the existing ROW, although there are also wetlands located within the additional ROW necessary for the Build Alternative.

Measures that are available to minimize temporary construction impacts could include requiring contractors to 1) avoid wetlands during the establishment of construction staging areas and other construction activities and 2) employ erosion, sedimentation and bank stabilization practices at or near creeks or creek crossings. Additionally, debris and spoil disposal, if generated, would be removed according to state and local regulations.

### 3.5 Indirect and Cumulative Impacts

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#### 3.5.1 Indirect Impacts

Indirect impacts are defined as reasonably foreseeable future consequences to the environment that are caused by the proposed action, but that would occur either in the future (later in time) or near, but not in the same location as, direct impacts associated with implementation of a build alternative. Under the Council on Environmental Quality (CEQ) regulations, indirect impacts are defined as those that are “caused by the action and are later in time or farther

removed in distance but are still reasonably foreseeable. Indirect effects would include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystem” (40 CFR 1508.8b).

Indirect impacts can be associated with the consequences of land use change and development that would be indirectly supported by changes in local access or mobility. Indirect impacts differ from those directly associated with the construction and operation of a project itself and are often caused by what is commonly referred to as “induced development.” Induced development would include a variety of alterations such as changes in land use, economic vitality, property values and/or population density. The potential for secondary impacts to occur is determined in part by local land-use and development-planning objectives and the physical location of a proposed action.

### **3.5.2 Cumulative Impacts**

The consideration of cumulative effects consists of an assessment of the total effect on a resource, ecosystem, or community from past, present, and future actions that have altered the quantity, quality, or context of those resources within a broad geographic scope. Under the CEQ regulations, cumulative effects are defined as “...the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time” (40 CFR 1508.7). The cumulative effects analysis considers the aggregate effects of direct and indirect impacts – from federal, non-federal, public, or private actions – on the quality or quantity of a resource.

The intent of a cumulative-effects analysis is to determine the magnitude and significance of cumulative effects, both beneficial and adverse, and to determine the contribution of the proposed action to those aggregate effects. Contributions to cumulative effects associated with the Build Alternative on the resources analyzed would be limited to those derived from the direct and secondary impacts of the action.

As with any new construction, there would be additional energy expended that would contribute to the cumulative impact as a result of the Build Alternative. This is also true with the loss of agricultural land and trees and this will also contribute to the cumulative impact as a result of the Build Alternative.

A minor cumulative loss to wetlands and/or WOUS may occur over time in conjunction with the Build Alternative, and other developments that may occur within the Project study area. These impacts, however, are expected to be minimal as these resources are protected by federal and state regulations, requiring mitigation for any impacts to be unavoidable.

The Build Alternative would provide some beneficial contributions to cumulative impacts. The proposed improved operability of freight and passenger rail service by the construction of

expanded and new siding is expected to provide an overall benefit to air quality. Air quality benefits are also expected as potential motorists move to the faster Amtrak service that will be using energy efficient equipment. The improvements to the grade crossing treatments will benefit the safety of motorists crossing the railroad.

### 3.6 Preferred Alternative

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The Preferred Alternative for this Project is the Build Alternative. The proposed Build Alternative would be of immediate benefit to the rail passenger and freight services using this line today, as well as future use for HSR trains. The Build Alternative would improve fluidity of train movement, decrease delays in passenger trains, and reduce congestion in the area between Broadwell and Elkhart. The siding track would also improve the efficiency of the railroad by allowing for train meets and sorting of cars for freight trains as well as an area for storing trains during maintenance incidents. The upgrade improvements would enhance the safety of train operations through the zone, including those grade crossings within the Project limits.

### 3.7 Permits

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The UPRR would be required to obtain approvals and or permits under the following authorities:

- Section 401 of the Clean Water Act, Water Quality Certification from the IEPA.
- Coverage under the National Pollutant Discharge Elimination System (NPDES) Storm Water discharge permit, which is administered by the Illinois Environmental Protection Agency (IEPA). Section 402 of the Clean Water Act National Pollutant Discharge Elimination System (NPDES) Construction Permit from the IEPA. Because the proposed Project would potentially disturb more than one acre, it would be subject to the requirement for an NPDES permit for stormwater discharges from the construction site. Permit coverage would be obtained under the IEPA General Permit for Stormwater Discharges from Construction Site Activities (NPDES Permit No. ILR10). A Stormwater Pollution Prevention Plan would be prepared and implemented, in accordance with requirements under the NPDES permit(s).
- An approved operating soil erosion and sedimentation control program which ensures compliance with 70 ILCS 405 Soil and Water Conservation Districts Act.
- USACE Section 401/404 and state wetlands and waterways permit to authorize fill in wetlands and WOUS associated with project construction.

### 3.8 Environmental Commitments

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The following summarizes the commitments that would occur for the Preferred Alternative:



- UPRR Commitment. Prior to construction, erosion control fencing will be placed at the limits of construction. Zones of fill, grading, compaction, or equipment movement will be restricted to areas outside the protective fencing. Impacts from silt and sedimentation will be minimized through adherence to erosion control measures.
- UPRR Commitment. Prior to construction and as part of the wetland permitting process, necessary wetland mitigation as required for the Section 404 permit would be secured.
- UPRR Commitment. To the extent practical, the UPRR should avoid and minimize impacts to prairie areas. The UPRR should notify the IDOT Bureau of Design and Environment as soon as unavoidable impacts are known.
- UPRR Commitment. Areas of temporary impact will be graded back to the original contour and then seeded with modified IDOT Class 4 native Grass mix. Perennial ryegrass shall not be included in the Class 4 mix. Seed should be planted according to Articles 250.05 and 250.06 of the IDOT Standard Specifications for Road and Bridge Construction (adopted 01-01-2012)
- UPRR Commitment. Accidental spills of hazardous materials and wastes during construction or operation of the transportation system require special response measures. Occurrences will be handled in accordance with local government response procedures. Refueling, storage of fuels, or maintenance of construction equipment will not be allowed within 100 feet of wetlands or water bodies to avoid accidental spills impacting these resources.
- IDOT Commitment. IDOT would make an avoidance determination at a future date pertaining to the identified recognized environmental conditions (REC) for state and state jurisdiction ROW. If the proposal cannot avoid the identified RECs, then a Phase II Preliminary Site Investigation (PSI) would be prepared for the applicable locations on state and state jurisdiction roadway ROW.
- IDOT Commitment. Further environmental studies would be conducted if the proposed improvements require excavation, including subsurface utility relocation, on a property with an easement for state or state jurisdiction roadway ROW. A Preliminary Site Investigation (PSI) will be conducted for state and state jurisdiction roadway ROW prior to acquisition of any contaminated parcel, and/or required temporary or permanent easements.
- IDOT Commitment. In some cases, the portion of the Project that involves an REC can be risk managed for state and state jurisdiction ROW, and not require additional assessment. If risk managing is not possible, further environmental study is required, specifically a PSI, to determine the nature and extent of possible contamination for state or state jurisdiction roadway ROW.
- UPRR and IDOT Commitment. Special waste issues encountered during construction will be managed in accordance with UPRR standard specifications and special provisions or the "IDOT Standard Specifications for Road and Bridge Construction and Supplemental Specifications and Recurring Special Provisions."
- IDOT Commitment. If construction is managed by IDOT, Special waste issues encountered during construction will be managed in accordance with the IDOT "Standard Specifications

for Road and Bridge Construction and Supplemental Specifications and Recurring Special Provisions.”

- UPRR Commitment. Unavoidable adverse wetland impacts are subject to the applicable replacement ratios specified in 17 Ill. Adm. Code Part 1090.50 (c)(8). In accordance with the IDOT Wetlands Action Plan, the proposed improvements are Programmatic Review Actions and coordination with the IDNR is not required. Programmatic Review Actions are those which involve impacts to wetlands only in areas where construction is within existing ROW or in new ROW which is contiguous to the existing ROW and for which there is no practicable alternative which would avoid adverse wetlands impacts. The UPRR would secure the required Section 404 permit and coordinate with the USACE, USFWS, and the IDNR.
- UPRR Commitment. In the case of an emergency involving hazardous material, UPRR would enact a hazardous materials emergency response plan.
- UPRR Commitment. BMPs for dust will be followed. Debris and spoil disposal, if generated, will be removed according to state and local regulations.
- UPRR Commitment. No tree clearing would be allowed between April 1 and September 30 in order to protect the Indiana bat.
- UPRR Commitment. The proposal would be required to obtain a NPDES permit from the IEPA for construction stormwater discharges. A SWPPP would be prepared containing BMPs to minimize the discharge of sediment. Additionally, the SWPPP would contain BMPs for proper materials handling and management to prevent any chemical or material discharge into surface waters. A local stormwater permit would be required for all hydraulic structures. A permit would also be required from the IDNR for all structure replacements/extensions. Culverts within the project study area would comply with the non-notification Statewide Permit requirements.
- UPRR Commitment. Fencing construction would be coordinated with the local communities.
- UPRR Commitment. Temporary impacts to floodplains would be restored following construction. Permanent impacts would require proper sizing of hydraulic structures and compensatory storage where required.
- UPRR Commitment. UPRR will ensure that all equipment will be in good working order and maintained, including the exhaust systems.

## 4.0 Coordination and Consultation

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Public involvement is an important part of any IDOT project planning process. In addition to working with the requisite federal and state agencies, IDOT efforts for this Environmental Assessment included outreach to a wide variety of stakeholders within the Project study area. A printed copy of this EA will be in the local public library in Elkhart; and electronic copies will be available on IDOT and FRA websites for the public to review and provide comments.

### 4.1 Meetings

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The Draft Chicago-St. Louis High-Speed Rail Project Environmental Impact Statement (EIS) was completed in May 2000, and a Notice of Availability appeared in the *Federal Register* on June 23, 2000. Comments on the Draft EIS were solicited from regulatory agencies, local units of government, operating railroads, and interested citizens. Formal Public Hearings for the Original Project were held in the cities of Alton, Bloomington, Chicago, Joliet, Kankakee, and Springfield, Illinois, from July 24, 2000, through August 1, 2000. The Notice of Availability of the Final EIS was published in the *Federal Register* on January 31, 2003. The notice specified March 10, 2003, as the end of the wait period. By written request, this period was extended to April 15, 2003, for Logan County. A Record of Decision was issued by FRA and FHWA in 2004.

UPRR and IDOT will offer a public meeting opportunity for this EA through a notice in the local newspaper. The EA will be available for public review and comment both in a printed copy, found in the local library, and an electronic copy found on IDOT and FRA websites.

### 4.2 Agencies

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Letters sent to agencies are shown in *Appendix B*. This appendix includes letters sent by FRA regarding this EA. All coordination will be conducted in accordance of FRA procedures.

#### 4.2.1 State Historic Preservation Office (SHPO) Consultation

The SHPO was contacted for this Project. A letter of concurrence that states no historic properties will be adversely affected by the Preferred Alternative is included in *Appendix B*.

#### 4.2.2 Illinois Department of Natural Resources (IDNR) Consultation

Consultation with the IDNR was initiated through IDOT's Biological Resource Review (BRR). The BRR is included in *Appendix B*.

#### 4.2.3 U.S. Fish and Wildlife Service

The USFWS was contacted for this Project about threatened and endangered species, of specific concern is the Indiana bat (*Myotis sodalis*). A letter stating that the Project (the Preferred Alternative) is not likely to adversely affect the Indiana bat (*Myotis sodalis*) is included in *Appendix B*.

## 5.0 Distribution List

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### 5.1 Agency Coordination

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#### **5.1.1 Federal Agencies**

Advisory Council on Historic Preservation  
Federal Highway Administration, Illinois Division  
Federal Transit Administration, Region 5  
U.S. Army Corps of Engineers, Rock Island District  
U.S. Department of the Interior, Fish & Wildlife Service, Marion, IL Field Office  
U.S. Environmental Protection Agency, Region 5

#### **5.1.2 State Agencies**

Illinois Department of Agriculture  
Illinois Department of Natural Resources  
Illinois Environmental Protection Agency  
Illinois Historic Preservation Agency

#### **5.1.3 Counties**

Logan

#### **5.1.4 Local Communities and Jurisdictions**

Village of Elkhart  
Village of Broadwell

#### **5.1.5 Railroads**

Union Pacific Railroad Company

## 6.0 References

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